THE DRUG AND COSMETIC INDUSTRY

ESTABLISHED 1914

Formerly Called "DRUG MARKETS"

December, 1932

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VOL. XXXI — NUMBER 6

DRUG MARKETS, INC.
PUBLISHERS

Publication Office, 28 Renne Ave., Pittsfield, Mass. Editorial and General Office, 101 W. 31st St., N.Y. City

Editor
THOMAS R. FARRELL

Business Manager
FRAZER V. SINCLAIR

PUBLISHED MONTHLY AT PITTSFIELD, MASS., SUBSCRIPTION PRICE, TWO DOLLARS A YEAR, IN ADVANCE, FOREIGN COUNTRIES THREE DOLLARS, THREE WEEKS' NOTICE IS REQUIRED TO CHANGE SUBSCRIBER'S ADDRESSES, AND WHEN NOTIFYING KINDLY GIVE BOTH OLD AND NEW ADDRESSES; PRINTED BY THE SUN PRINTING COMPANY, PITTSFIELD, MASS. ENTERED AS SECOND CLASS MATTER, JANUARY 1, 1928 AT THE POST OFFICE AT PITTSFIELD, MASS., UNDER THE ACT OF MARCH 3, 1879.

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Buyers' Guide

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M. W. Parsons, Imports
Pfaltz & Bauer, Inc.

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U. S. Industrial Alcohol Co.

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Fritzsche Brothers, Inc.
General Drug Co.
Givaudan-Delawanna, Inc.
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Compagnie Parento, Inc.
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Ungerer & Co.
van Ameringen-Haebler, Inc.

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E. A. Bromund Co.
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Theodor Leonhard Wax Co., Inc.
Will & Baumer Candle Co., Inc.

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Magnus, Mabee & Reynard, Inc.
Compagnie Parento, Inc.
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Ungerer & Co.
van Ameringen-Haebler, Inc.

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Fritzsche Bros., Inc.
Givaudan-Delawanna Inc.
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Monsanto Chemical Works

CONTAINERS

BOTTLES

Hart Glass Mfg. Co.
Owens-Illinois Glass Co.

BOXES

Cleveland Container Co.

COLLAPSIBLE TUBES

Art Tube Co.
National Collapsible Tube Co.
New England Collapsible Tube Co.

GLASSINE PAPER

Riegel Paper Corp.

PACKING MATERIAL

Kimberly-Clark Corp.

VIALS

Kimble Glass Co.

CLOSURES

CORKS

Armstrong Cork & Insulation Co.

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Crown Cork & Seal Co.
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Ask for samples of the three new Raldeines.

GIVAUDAN-DELAWANNA INC.

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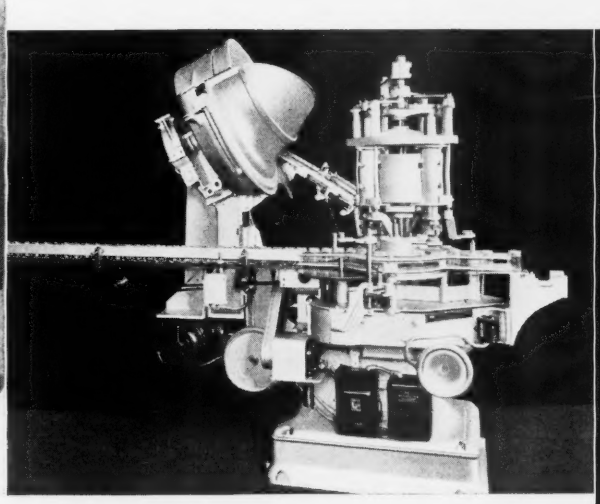
CAPS THEM ALL



Greater flexibility, greater range to meet modern needs

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It is in these two important requirements that this Pneumatic Capping machine offers you exceptional and unequalled advantages. It has been designed to handle a wide variety of sizes and shapes of containers with but minor adjustments and with the minimum of equipment. A newly developed sensitive chuck handles all types of decorated metal and plastic screw caps without damage and guarantees positive sealing to any desired tension.

Foresighted manufacturers who are considering future as well as present needs will be interested in the unusual features of this capping machine. Write or phone these representatives at the nearest branch office:

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Carton Feeders—Bottom Sealers—Lining Machines — Weighing Machines (Net and Gross)—Top Sealers — Wrapping Machines (Tight and Wax)—Capping Machines—Labeling Machines — Vacuum Filling Machines (for liquids or semi-liquids) —Automatic Capping Machines—Automatic Cap Feeding Machines—Tea Ball Machines

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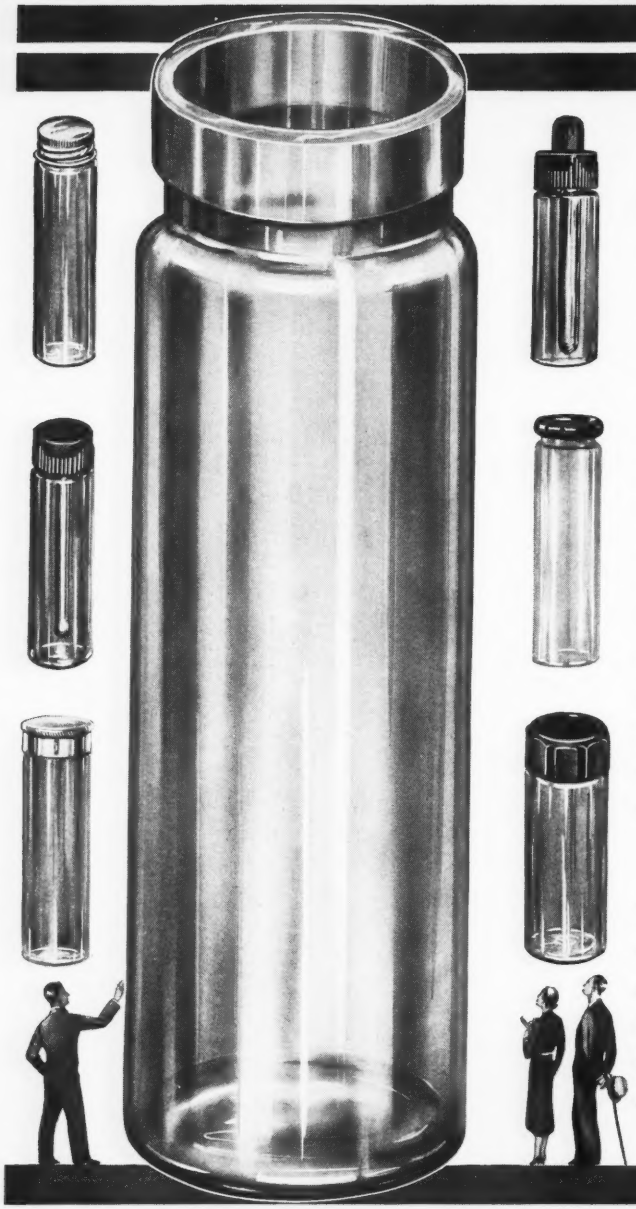
The appeal of Glass is immediate and lasting



Glass packages today hold the center of the merchandising stage. They are individual show-windows for your products. Their crystal walls radiate purity and quality—their appeal creates new sales.

It is not by chance or guesswork that America's great drug, pharmaceutical and perfume manufacturers specify and use Kimble Glass Vials for packaging their products. They know that Kimble Vials are automatic machine-made for maximum uniformity—that they are retempered for maximum strength and insurance against strains and weak spots—that their light weight minimizes handling and shipping costs—that they are fabricated only of high grade technical glass in the finest plant of its kind in the world.

◆ ◆ ◆

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Cinchophen, U. S. P.
Epsom Salt, U. S. P. Recrystallized
Phenol, U. S. P.
Ferric Chloride, U. S. P. (Solution or Crystals)
Magnesium Sulphate, Desiccated
Sodium Benzoate, U.S.P.
Strontium Bromide U. S. P. IX
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Methyl Salicylate, U. S. P.
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THE first producer of Glycerophosphates in this country several decades ago, Monsanto has zealously guarded that leadership, and improved the individual salts in purity. Pharmaceutical manufacturers place absolute dependence upon the high quality of Monsanto Glycerophosphates.

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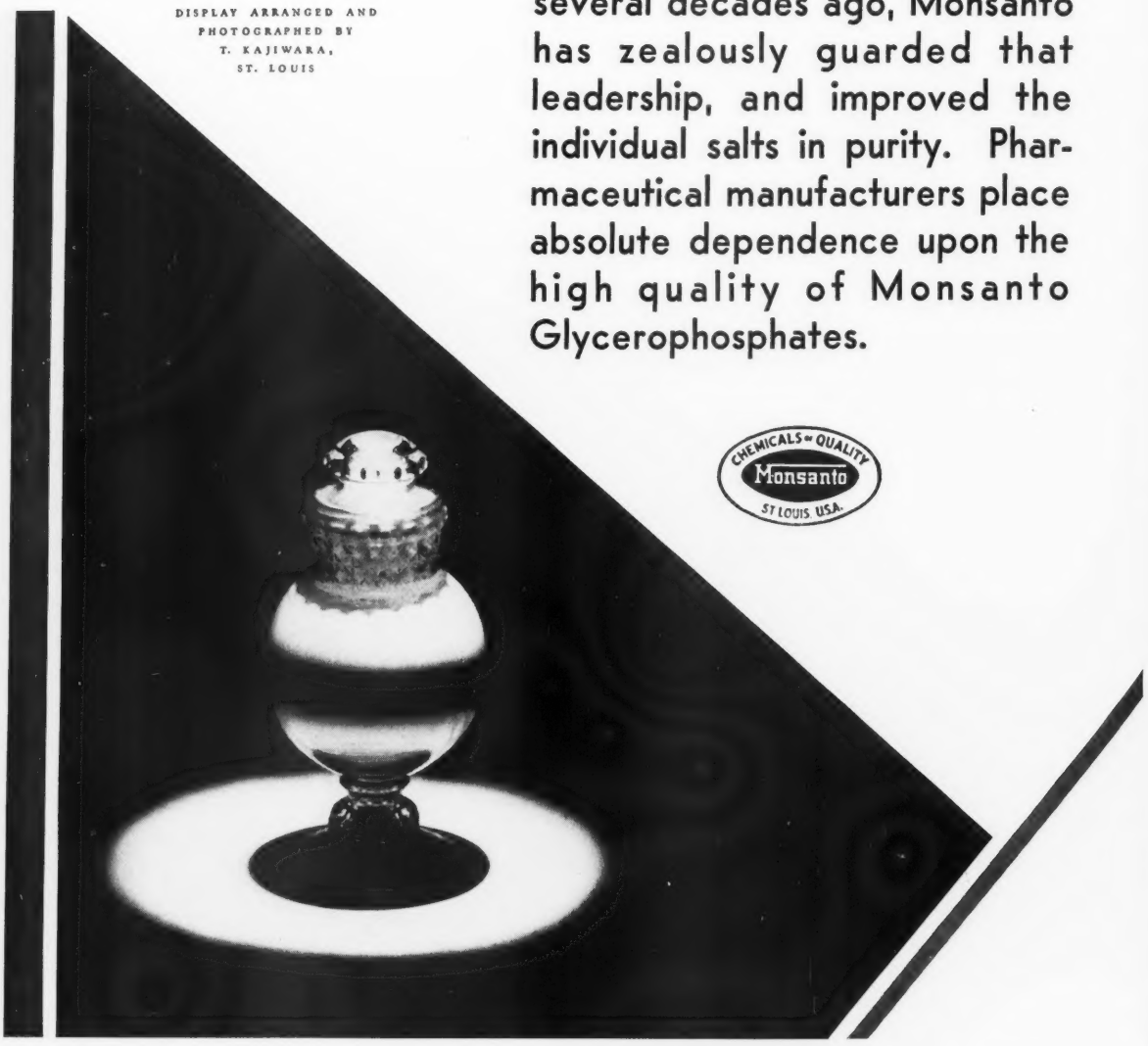

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We wish you all
A Merry
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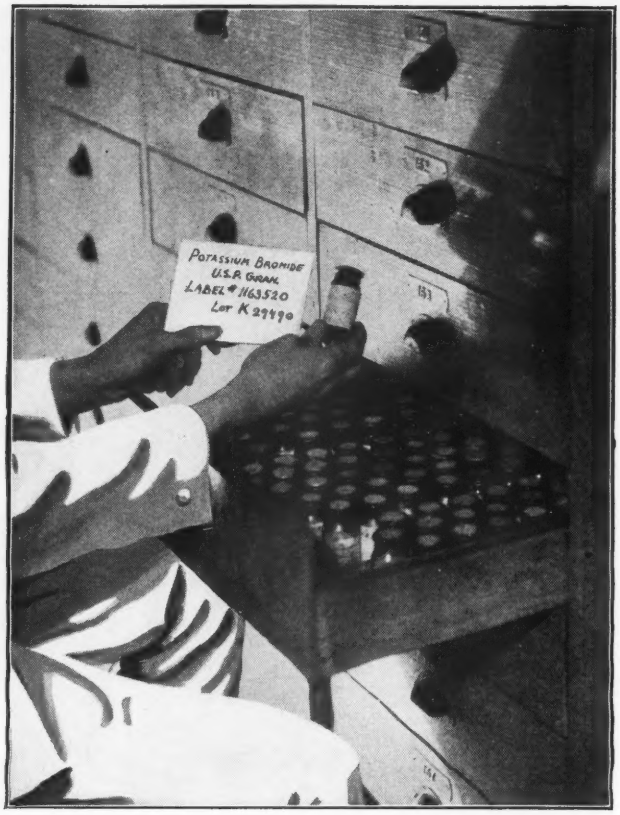
A Happy
New Year



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Potassium Bromide U.S.P. Cryst., Gran. and Powd.
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Strontium Bromide U.S.P. IX Cryst. and Gran.
Barium Bromide Pure
Cadmium Bromide Crystals
Copper Bromide (Cupric)
Ethyl Bromide (Ether Hydrobromic)
Ethylene Bromide
Iron Bromide (Ferrous)
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Lithium Bromide N.F.
Magnesium Bromide
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Zinc Bromide Pure

Can be supplied in special forms to meet individual specifications.

One of 1500 Mallinckrodt fine Chemicals
FOR MEDICINAL USE

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An Editorial

An Aggressive Industry

BUSINESS in this industry is aggressive today to a surprising degree. The lack of response to sales tactics during the depression has in no appreciable manner dampened the efforts of the real houses. Efforts to keep abreast of the latest developments are strikingly manifest. Pervading the industry is a spirit which explains to a great extent why the volume of drugs and cosmetics has been relatively well maintained during the present period.

SCIENTIFIC facts regarding new developments in both drugs and cosmetics are eagerly sought out and put into practice by manufacturers. Likewise are new developments which represent either improvements or economies in packaging and production quickly acted upon by manufacturers. Years of service to the public does not count for a great deal in the present struggle for business existence. Some of the oldest houses in many lines have failed to weather the storm. Therefore, this alertness, particularly noticeable in the industry, is not only necessary to those concerns trying to gain a real foothold during the present period, but is also necessary to those more firmly established houses which are bending all their efforts toward preventing the smaller and newer houses from making inroads upon them.

AFTER all, although business might not be of very great volume today, it is not the loss of immediate business that really threatens existing business enterprises most, but rather is it the loss of position in their field and the likelihood that some other houses will be more firmly entrenched when business revives and thus takes a greater share of the business revival.

THERE is more reason for being agressive today than there was for being equally aggressive in 1929, for aggressiveness today will be of longer duration and will probably produce more business during the next era of prosperity than will aggressiveness during just the prosperous period.

A Counterfeiting Law A bill has been introduced in the U. S. Senate making the sale of counterfeit drug products in interstate commerce a felony and specifying a penalty for conviction of a fine of $1,000 to $5,000, and imprisonment of five to ten years. When this measure is enacted, the plan calls for the introduction of similar laws in the legislatures of the several states.

There can be no hesitation in the minds of the manufacturers in supporting such a bill. This type of thievery has been particularly rampant during recent years, mainly due to the development of the art of counterfeiting packages and labels in the production of illicit whiskey. Extremely heavy losses have been suffered by leading drug manufacturers through this evil which has been punishable to date only as a misdemeanor. Sentences have rarely run over one year, and quite often the offenders have escaped with light fines only again to engage in their nefarious practices.

Unfortunately for the cosmetic branch of the industry, however, the proposed bill is restricted to drugs. In the face of the very heavy losses to the cosmetic branch of the industry from this evil, a strong effort should be made to have this bill include cosmetics as well as drugs.

In considering any revision of the bill to this end, the danger of preventing the passage of the bill in its present form should be borne in mind. It is much easier to enact legislation protecting the public health than it is to pass legislation protecting the public beauty. Also if a law making the counterfeiting of drugs a felony were in effect, it is probable that most of the counterfeiters would at one time or another come within the scope of the act since most counterfeiters do not restrict their efforts to any particular branch of the industry. Also there are many cosmetics which are considered remedial agents under the Food and Drugs Act and would thus come within the purview of the act.

And while there is the possibility that enactment of such a law would drive counterfeiters more into the field of cosmetics, it is far better to enact such an act for drugs and thus establish a precedent for the inclusion of cosmetics.

We sincerely hope that the bill can be amended to include cosmetics, but in any event let no one do anything to hinder the passage of a law which is sorely needed as a protection to a large part of an industry which serves the public in a most essential way.

• • •

Castile Soap Although the Supreme Court of the United States has ruled against the Federal Trade Commission definition of Castile Soap as a soap made only with olive oil, the marketing of any soap other than an olive oil one under the name of Castile will not prove so simple if the Food and Drug Administration chooses to take a hand in the matter.

For it must be remembered that Castile soap is an item defined in the U. S. P. as a pure olive oil soap. It must also be remembered that soaps other than Castile U. S. P. are sold in the same retail outlets as Castile. Therefore confusion is quite likely to occur and the Food and Drug Administration might easily step into the picture to protect the public in the matter of buying Castile Soap, U. S. P.

The Food and Drugs Act expressly directs that products which bear a name which is in the U. S. P. must meet the U. S. P. specifications unless the manner in which the products differ from the U. S. P. is plainly stated on the labels. Thus the Food and Drug Administration might force such statements on Castile Soap labels as "differs from U. S. P. in that it contains 10 per cent of coconut oil."

After all it would not be for the best interests of the public to have the name Castile Soap become meaningless. There is a definite product defined in the U. S. P. and the present Supreme Court decision has no bearing on this product or upon the protection of it by the Food and Drug Administration.

• • •

Retail Bankruptcies The matter of chain store bankruptcies is not so simple as it at first appeared according to the latest developments, although it seems certain that sufficient pressure upon landlords will at least bring some sort of reduction in the rents of these stores bringing the rentals more in line with present day conditions.

Therefore, it is to be assumed that the chain stores generally will be able to bring their fixed charges down to the proper levels and thus set themselves under existing economic conditions.

From the point of view of the manufacturers it is sincerely to be hoped that the independent retailers will be able to do likewise. For it is not in the best interests of

manufacturers to have the chain stores gain any definite advantage over the independent retailers even though it be of only a temporary nature.

• • •

Into 1933 With the close of the year 1932 many businesses will breathe a sigh of relief in the firm belief that such a year must mark the end of the depression and that the bottom has been reached and we are now definitely on the upgrade. It is true that there is more optimism abroad for the coming year than there has been for several years back. While "better" business might not mean a great deal when compared with 1928 or 1929, it will mean business life or death to an exceedingly large number of firms.

We all know that no matter how long it rains, it always stops. By the same token we know that no matter how long business is depressed, it always recovers to heights which we believed were impossible. Still another fact which we too seldom realize is that even during our worst years there are some who make large sums of money and others who at least lay the foundations of fortunes.

Business is available for those who have the proper products to offer. In November we announced a new piece of equipment in the "Management Forum" and were astounded at the number of firms who wrote asking us where they could purchase it.

Next year will in all probability be a better year because of the manner in which conditions are becoming righted, but it will be still better if manufacturers will try to adjust themselves to offering what is wanted at the price that can be paid rather than offering goods which manufacturers think should be bought at prices which the manufacturer thinks should be charged.

• • •

Ten Years Ago

From our Pages, December, 1922

W. L. Pierce, Baltimore representative of Eli Lilly & Co., said in a recent address in Baltimore that the pharmacies of the United States handle 48,000 different articles now, against probably 2,700 in the latter part of the Nineteenth Century.

Magnus, Mabee and Reynard, Inc., will hold their third annual sales convention in New York, December 18.

Good cheer in abundance was in evidence at the annual Christmas Party of the New York Chapter of the Salesmen's Association of the American Chemical Industry held December 18. About a hundred members attended.

• • • New and Non-Official • • •

• • •

Drink to Me Only With Thine Mouthwash

This department has long advocated the flavoring of drug products, such as tooth pastes, etc., with flavors reminiscent of the pre-Volstead days.

Our campaign in this direction has recently received great impetus from the news item reporting that a French physician has discovered that the effects of a good stiff drink can be secured by inhaling or gargling spirituous liquors.

Now who will be the first to market a Rye mouth wash, a Scotch nose drops, a Bacardi tooth paste or a Gin inhalant.

• • •

Paging Dr. Fishbein

Delving into the news again, we see that a woman who had a chicken bone stuck in her throat was relieved of it by an airplane ride. Another woman had her hearing restored by similar treatment.

What we want to know is this—Have airplane therapeutics been accepted by the A. M. A.?

• • •

Oils of Industry

In our search for the unusual in raw materials we have encountered oil of *Backhousia citriodora.*

Accustomed as we are to jumping at conclusions, we assume that Joe Cook has the agency and that it's used in making deodorant blocks.

• • •

Fanny Mail

Man Slaps Woman on Back—Arrested. (Newspaper Headline)

One of our peculiar contributors writes in to say that "This looks as if the bottom had been reached."

• • •

Pearl Essence Again

Harrison Smith and Robert Haas, publishers, have issued a new book bound with a new washable pearl essence finish.

The faithful will remember that we suggested this finish for powder boxes, etc.

• • •

New Treatment for Tape-worms

A young lady would not take a purge to get rid of tape-worms, so her ingenious physician prescribed a snake-charmer.

• • •

Add Testimonials

According to Dr. W. M. Carroll, the increase in the use of cosmetics is responsible for an incredible advance in women's beauty; there are, he says, a dozen beautiful women now to one of a hundred years ago.

To which the office Don Juan (name on request) adds that he has the telephone number of all twelve.

To which we add, "Lady, what makes you so beautiful?"

"Cause"

"Cause why?"

"Cause-metics."

Cost of Medical Care

After a five year national study, the Committee on the Costs of Medical Care issues its findings and recommendations which should be of interest to drug manufacturers.

THE report outlines the present situation and lists the following "deficiencies in the provision of medical service which seem to be within the power of the American people—professional and lay, separately or together—to overcome at the present state of medical knowledge:"

1. People need a substantially larger volume of scientific medical service than they now utilize, particularly persons of small incomes. In spite of the large volume of free work done by hospitals, health departments and individual practitioners, and in spite of the sliding scale of charges, it appears that each year nearly one-half of persons in the lowest income group receive no professional medical or dental attention of any kind, curative or preventive.

2. Modern public health services need to be extended to a far greater percentage of the people, particularly in rural areas, towns and small cities.

3. There is need for a geographical distribution of practitioners and agencies which more closely approximates the medical requirements of the people.

4. Current expenditures for medical care, in rural and semi-rural areas, are insufficient to insure even approximately adequate service, to support necessary facilities, or to provide satisfactory remuneration to the practitioners.

5. Many practitioners, particularly well-trained recent graduates, should have opportunities to earn larger net incomes than they now receive. Incomes of general practitioners and of specialists should be more nearly equal than at present. The opportunity and incentive for "fee-splitting" should be removed.

6. Better control over quality of medical service is needed, and opportunities should be provided for improving quality as rapidly in the future as it has been improved in the past.

Improvement of quality of service would include: Elimination of practice by unqualified "cult" practitioners; control over practice of secondary prac-

Five Major Recommendations on Medical Service Made by Committee After a Nation-Wide Study

I

The committee recommends that medical service, both preventive and therapeutic, should be furnished largely by organized groups of physicians, dentists, nurses, pharmacists and other associated personnel. Such groups should be organized, preferably around a hospital, for rendering complete home, office and hospital care. The form or organization should encourage the maintenance of high standards and the development or preservation of a personal relation between patient and physician.

II

The committee recommends the extension of all basic public health services—whether provided by governmental or non-governmental agencies—so that they will be available to the entire population according to its needs. This extension requires primarily increased financial support for official health departments and full-time trained health officers and members of their staffs whose tenure is dependent only upon professional and administrative competence.

III

The committee recommends that the costs of medical care be placed on a group payment basis, through the use of insurance, through the use of taxation, or through the use of both these methods. This is not meant to preclude the continuation of medical service provided on an individual fee basis for those who prefer the present method. Cash benefits, i. e., compensation for wage loss due to illness, if and when provided, should be separate and distinct from medical services.

IV

The committee recommends that the study, evaluation and coordination of medical service be considered important functions for every State and local community, that agencies be formed to exercise these functions and that the coordination of rural with urban services receive special attention.

V

The committee makes the following recommendations in the field of professional education: (a) That the training of physicians give increasing emphasis to the teaching of health and the prevention of disease; that more effective efforts be made to provide trained health officers; that the social aspects of medical practice be given greater attention; that specialties be restricted to those specially qualified, and that post-graduate educational opportunities be increased; (b) that dental students be given a broader educational background; (c) that pharmaceutical education place more stress on the pharmacist's responsibilities and opportunities for public service; (d) that nursing education be thoroughly remolded to provide well-educated and well-qualified registered nurses; (e) that less thoroughly trained but competent nursing aides and attendants be provided; (f) that adequate training for nurse-midwives be provided, and (g) that opportunities be offered for the systematic training of hospital and clinic administrators.

titioners (like mid-wives, chiropodists and optometrists); restriction of practice of specialists to those with special training and ability; more opportunity for post-graduate study for physicians, particularly rural practitioners; more opportunity for physicians to exchange experiences and to assist each other; better control, through supervision and further education, over the work of certain physicians and dentists who, even though regularly licensed, are not competent for many functions.

7. There should be more effective control over the number and type of practitioners trained, and their training should be adjusted to the "true" needs of the people.

8. There is need for reduction of waste in many directions, such as money spent on unnecessary medication, on services of poorly qualified or utterly unqualified "cultists," and waste due to idle time of practitioners, high "overhead" of private medical and dental practice, unused hospital accommodations, and the sending of patients from place to place for medical service.

9. There is need for some plan whereby the unequal and sometimes crushing burden of medical expenses can be distributed. Prevailing methods of purchasing medical care lead to unwise and undirected expenditures, to unequal and unpredictable financial burdens for individual and family, to neglect of health and of illness, to inadequate expenditures for medical care, and often to inequable remuneration of practitioners.

Following are some significant facts and figures revealed in report:

1. A total of 1,084,500 persons in United States are engaged in providing medical care and in sale of medical commodities. Of these the personnel in private practice are distributed as follows: Physicians, 121,000; dentists, 56,800; graduate nurses, 118,000; practical nurses, 150,000; mid-wives, 47,000; chiropodists, 4,900; optometrists, 20,200; osteopaths, 7,700; chiropractors, 16,000; naturopaths, 2,500; religious healers, 10,000. The total in this group is 554,100.

The personnel in medical institutions and those engaged in sale of medical commodities are distributed

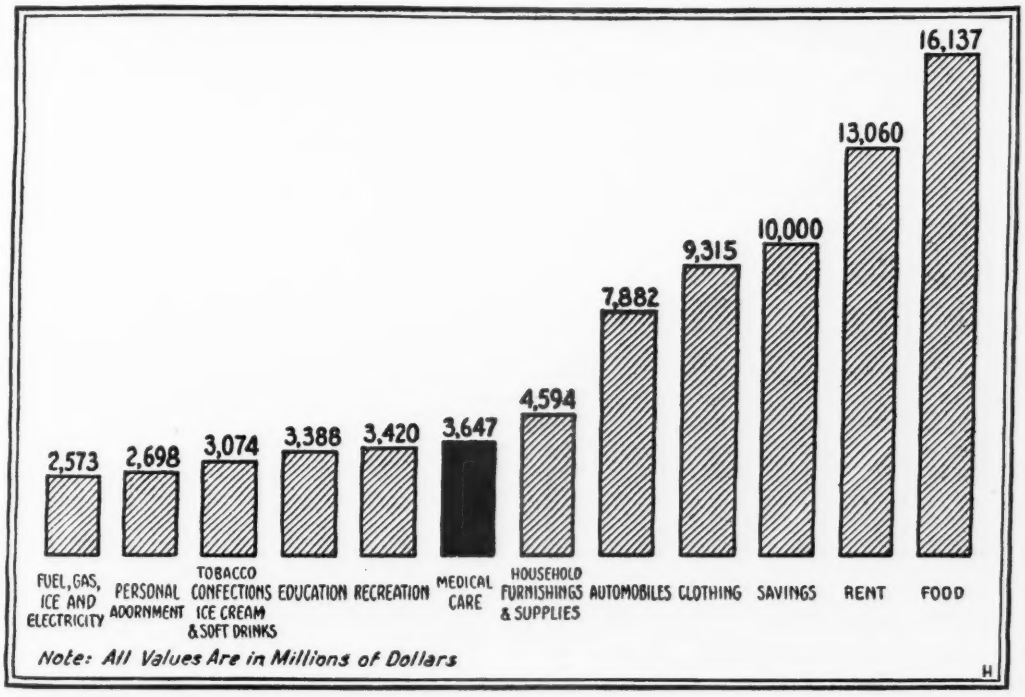
Cost of Medical Care in Nation Put at $3,650,000,000 a Year

The total cost of all forms of medical care in the United States, including hospitalization, physicians' and dentists' services, nursing, drugs and medicines, public health and all other factors, is more than $3,650,000,000, or about $30 per capita a year, it is shown in the final report of the committee on the costs of medical care, made public yesterday.

The nation's "medical dollar", based on data for 1929, is distributed as follows:

Practicing physicians	29.8
Hospitals	23.4
Dentists	12.2
Medicines	18.2
Public Health	3.3
Nurses	5.5
Cultists	3.4
All Others	4.2

Drugs and medicines alone account for $700,000,000 a year.



As medical care lines up in the nation's expenditures

as follows. Physicians, 21,000; dentists, 5,600; graduate nurses, 77,000; student nurses, 80,000; public health and industrial nurses, 18,800; pharmacists, 132,000; lay personnel in hospitals, clinics and public health agencies, 196,000. The total in this group is 530,400.

2. Most money spent directly by people for medical care, the figures show, goes for treatment of illness, and only a very small proportion for prevention. Thus, of a total of $3,656,000,000 spent by the nation in 1929 for its medical bill, 78.5 per cent was paid for care of illness, 17.4 per cent for dental care, 2.7 per cent for eye care, and only 1.4 per cent on prevention.

3. Medical practitioners' incomes are distributed very unevenly, with actual incomes inadequate for a large number of practitioners, while they are more than adequate for some others.

The extent of this maldistribution is suggested by the wide interval between the middle, or median, net income of $3,800 and the average of $5,300. In 1929, statistics show, one-third of all private practitioners had net incomes of less than $2,500. For every physician with a professional net income of more than $10,000 there were two who received less than $2,500. The contrast is especially great between general practitioners and specialists. In 1929 the 70,000 general practitioners, as a group, received less income than the 30,000 complete specialists. The average net income of the former group was under $4,000, while that of the latter exceeded $10,000.

4. Costs to the individual receiving medical care were likewise found to be extremely uneven. A study of 9,000 families showed that average costs of medical care varied with the income of these families, but that within each income group there were wide variations in actual cost per family.

Of families with total annual incomes under $1,200 80 per cent paid less than $60 during a year and 1 per cent paid over $500. Of families with total annual incomes more than $10,000 seven-tenths of 1 per cent paid under $60 during the year and 74 per cent paid more than $500.

5. The per capita expenditure in the United States for medicines is $5.49, while for public health work—local, State and Federal—it is only $1.

Six Basic Essentials

The report lays down the following six basic essentials for consideration in the formulation of a plan for the provision of medical service:

1. The plan must safeguard the quality of medical service and preserve the essential personal relation between patient and physician.

2. It must provide for the future development of preventive and curative services in such kinds and amounts as will meet the needs of substantially all the people and not merely their present effective demands.

3. It must provide services on financial terms which the people can and will meet, without undue hardship, either through individual or collective resources.

4. The program must include not only medical care of the individual and family but also a well-organized and adequately supported public health program that will apply all existing knowledge to the prevention of disease and permeate all medical practice with the concept of prevention.

5. It should include provisions for assisting and guiding patients in the selection of competent practitioners and suitable facilities for medical care.

6. It must provide adequate and assured payment to the individuals and agencies furnishing the care.

The report estimates that all needed medical care of the kind customarily purchased individually could be provided, excluding capital charges, for from $20 to $40 per capita per annum, which equals 40 to 80 cents per week. This estimate is based upon the actual experience of various organizations that are now providing complete, or nearly complete, service for weekly or monthly fees, or without direct charge to the beneficiary.

Preventive Medicine

Future medical practice, the committee believes, will be concerned increasingly with the prevention of disease and defectiveness as well as its alleviation and cure. Medical students, therefore, should be thoroughly instructed in the conduct and use of periodic health examinations, in the basic principles of psychiatry, and in the prevention of specific diseases. Such emphasis should not be confined to special courses in public health or preventive medicine, but should, as far as possible, permeate all courses. This involves reorientation of the entire curriculum.

1. Voluntary cooperative health insurance, in which organized groups of consumers unite in paying into a common fund agreed annual sums, in weekly or monthly instalments, and in arranging with organized groups of medical practitioners working as private group clinics, hospital medical staffs or community medical centres, to furnish them and their families with virtually complete medical service. By "organized groups of consumers" the committee means industrial, fraternal, educational or other reasonably cohesive groups.

2. Required health insurance for low-income groups. Some members of the committee believe that the industrial States at least should immediately begin to plan for the adoption of legislation which will require all persons in certain income groups, certain occupations or certain areas to subscribe to health insurance.

3. Aid by local governments for health insurance: Part of the people, because of their low income, cannot pay, even on a periodic basis, the full cost of complete service in cases where the community relies for the provision of medical service primarily upon the purchase by its people of voluntary health insurance. Such communities may well use tax funds to the extent necessary to supplement the payments of these low-income families. When health insurance in required by law, it may also be necessary and desirable that a contribution be made from government funds.

Developments In Depilatories

A particularly interesting type of cosmetic, the depilatory is always a subject of investigation due to a strong desire on the part of manufacturers to improve their preparations.

THE standard reagents for removing hair from the body are the sulphides, and the sulphydrates, including sodium sulphide, calcium sulphide and barium sulphide. The trouble with these chemicals is they cause irritations and undesirable effects. The maker of cosmetics of any sort must be thoroughly familiar with physiological and biological action of ingredients that he compounds, since a cosmetic, which irritates or causes other troubles, will not retain its market for long. There is no greater inducement than retention of a market for the cosmetic maker to appreciate how important it is for him to know all he can about products he uses.

The sulphides are effective depilatories. But even when they do not irritate the skin, they develop sulphuretted hydrogen on use and the odor is disagreeable. The manufacturer may overcome this difficulty with proper perfume. He must know that depilatories act in a chemical manner to dissolve hair, and that in the chemical reaction certain products are formed, which irritate the skin. Thus caustic alkali is formed during use of any alkali or alkaline earth sulphide, such as calcium sulphide or sodium sulphide. In the case of the latter the caustic alkali formed is much stronger than in the former, and so, while sodium sulphide is a better depilatory than calcium sulphide, nevertheless its action is much more irritating.

Calcium sulphide is therefore not so effective in removing hair, but it is possible to strengthen its effect with two to five per cent of sodium sulphite. Another point about sodium sulphide in depilatories, is that it easily decomposes and oxidizes in the package. These tendencies can be counteracted by mixing vegetable mucilages, like agar-agar, or other colloidal preparations with the sulphide.

Strontium sulphide is the mildest of all depilatory chemicals. It is consequently most used, but is often mixed with calcium sulphide and also barium sulphide. The latter substance is, however, injurious and some countries have legislated against its use. Certain per-salts, such as sodium percarbonate or zinc perborate may be added to strengthen action of strontium sulphide.

Other sulphides and sulphydrates are sometimes used for depilatories. Arsenic sulphide has been employed at times but is a particularly dangerous chemical to use. It has been employed in admixture with caustic lime in proportion of one to six, but arsenic trioxide, a very poisonous chemical is developed.

Calcium sulphydrate has been proposed. This chemical is not the sulphide, but an acid sulphide, and it is much more easily decomposed than the sulphide, although its depilatory action is very good. Nevertheless the depilatories, containing calcium sulphydrate, are constantly evolving sulphuretted hydrogen and the odor is too pungent and disagreeable to allow sale of these products. Various attempts have been made to compound preparations, containing calcium sulphydrate and substances added for the definite purpose of preventing its easy decomposition. Such creams contain starches, zinc oxide, sugar solution, lime or chalk. Results have, however, been poor. Better results have been obtained by working calcium sulphydrate into semi-solid emulsified state with soap or with a slimy, emulsified colloid, such as agar-agar; gum tragacanth, gum arabic, gelatin, glue, quince mucilage or the like. These colloids prevent air from decomposing calcium sulphydrate.

Barium sulphide is claimed to have least irritating action on skin and is an effective depilatory. Nevertheless, it is not entirely safe to use because all soluble barium salts are poisonous to the human system. An interesting proposal is addition of barium sulphate, previously treated with X-rays, to the usual depilatory composition. Calcium oxide, that is caustic lime, which was formerly used alone for removal of hair, is now proposed as an ingredient of sulphide-containing compositions.

There is hardly any question that the principal problem in depilatories, is their secondary, irritating action on skin. How to prevent or alleviate this condition is a difficult matter. The very nature of the chemical reaction between the depilatory and skin and the close connection of hair and the epidermis make it inevitable that skin should be irritated more or less depending on nature of the depilatory.

Addition of certain chemicals to depilatories has given only partial result. For example, salts are added, whose action is to combine with the alkali liberated during the depilatory action. Aluminum sulphate and

aluminum acetate have been proposed. Addition of oxygen-containing sulphur compounds, such as sulphates, sulphites, thiosulphates, thionates, and also chlorides and phosphates, has been proposed. These salts not only counteract the irritating action of the liberated alkali but also prevent the untimely decomposition of the sulphide depilatories. At any rate such is the claim. Dextrin and starch have been added.

Another way of alleviating skin irritation is to use a special preparation after the depilatory has done its work. This appears to be more practical. Thus dilute solutions of acids, such as acetic acid, boric acid, salicylic acid, are claimed to give good results. Cold cream, almond oil and unperfumed powders, such as talc, rice starch and the like are also effective. A zinc oxide paste, containing 28 parts almond oil, 60 parts zinc oxide, 15 parts talc and 60 parts cold cream is useful; also a mixture of 30 parts lanolin and 90 parts soap-camphor liniment perfumed with oil of lavender.

Depilatories are made in powder form or paste. The powder is mixed with water before use. In both cases the filler or base is highly important from many angles. The former practice of simply mixing the sulphide with zinc oxide, starch and water to give a paste is no longer tenable. Such a preparation will generally harden in the tube or decompose altogether. The color of the preparation is distinctly unprepossessing. It is light, grayish-green in the fresh state, but it soon becomes dark green and finally brown. The older it gets, the longer the duration of application; hence the greater the irritating action on the skin and the more the patience of the user is taxed.

Gum tragacanth has been considered the best base for a depilatory paste. Nevertheless the paste decomposes in the tube. The mixture appears to separate into its components and when the tube is opened a thin slime oozes out while a thicker mass remains behind. This difficulty has been overcome by introducing the mixture of sulphide and precipitated chalk into a gum tragacanth gel, but the consistency of the mixture is found later impaired. Better keeping quality is attained by mixing sodium sulphide, which is dissolved in a gum tragacanth slime containing the required amount of water, with a slime containing zinc oxide and the gum.

It has been proven that much better results have been obtained by using a suitable colloid protector or emulsifier in making these preparations. The use of a stearate base is also useful. The emulsifier will prevent separation of the preparation in the tube and will also avoid decomposition of the active ingredient.

The filler or base in depilatory powders or pastes, must react neutral. It must not irritate skin and in fact a proper selection will alleviate skin irritation. This is true of talc, cold cream, etc. Various fillers used include rice flour and other starches, kieselguhr, aluminum silicate (kaolin, bole, bentonite), zinc oxide, sugar, palm oil, lanolin, glycerin, soap powder, gum arabic, sago, arrowroot, etc.

The filler dilutes the active principle and brings concentration down to the proper limit. In a paste, addition of water makes the concentration ready for use. Powders must be diluted with water before use. Here a question arises of the absorption or hydration of the filler by the water causing a change in concentration. Hence one filler cannot be replaced by an equal weight of another in making the powder. Physical properties of the filler must be considered in making the powder. The greater the hydrating powder of the filler, the higher the concentration of the active principle must be; the greater the specific gravity of the non-hydrating filler, the less the concentration of the active ingredient.

A formula for a depilatory cream is one part gum tragacanth, 10 parts water, 10 parts glycerin and six parts starch, together hot, and intimately mixed with 35 parts strontium sulphide, 3 parts sodium sulphide, 30 parts zinc oxide, 10 parts lanolin, 15 parts water and 0.2 part menthol. Formula for depilatory powder is 30 parts strontium sulphide, 20 parts calcium sulphide, 30 parts starch, 16 parts talc, 3 parts aluminum acetate and one part menthol.

The problem of perfuming is important. It is much simpler in dry powders, while an odorless cream is still an unsolved problem. Odor of sulphuretted hydrogen is hard to hide. It is not so much a question of adding a fine perfume as one which will give a fresh odor, intense enough to hide the sulphuretted hydrogen odor. The fact that sulphuretted hydrogen may react with perfume not only to destroy its odor but to change it into vile-smelling compounds complicates the problem.

The essential oils, which have been found suitable for perfuming depilatories include oil of wintergreen, vetivert oil, patchouly oil, oil of thyme, lavender oil; also the aromatics, amyl salicylate, terpineol, benzyl acetate, menthol. About 2% is usually added. Lavender oil, particularly terpeneless, is much liked for this purpose, as it alleviates skin irritation.

Another way of avoiding sulphuretted hydrogen stench is to add absorbents such as charcoal, sawdust and like. Removal of odor of sulphuretted hydrogen which persists after use of the depilatory may be accomplished by washing with dilute solution of zinc acetate.

A word may be said regarding hydrogen peroxide and highly oxygenated salts for removing hair. Hydrogen peroxide is known not only to bleach hair but to make it brittle, and when used long enough, hair can actually be removed. When hydrogen peroxide is used in high concentration, it will destroy hair roots as well and thus permanently remove hair. However, strong hydrogen peroxide has a very bad action on skin and is hardly safe as a depilatory. Hydrogen peroxide may be used as solution or in petrolatum or lanolin salve. Sodium perborate or peroxide may also be used, but their action is not effective and their main usefulness lies in their admixture with sulphide depilatories.

What's New in Medicines

Foreign continue to offer interesting new medicinals to the market. Manufacturers are interested in following the trend abroad.

Kamillopharm—Pure extract of chamomile, prepared by special process. For wounds of all kinds and in chamomile therapy. Albert Apotheke, Rudolf Junge, Leipzig, Germany.

Perdiphen—Contains aconite, atropine, chamomile, dioscorea (wild yam root) and magnesium phosphate in homeopathic dilution in combination with small amounts of quinine salicylate. For headaches, toothaches, etc. Dr. Wilmar Schwabe, Leipzig, Germany.

Antiphlogisticum Dr. Klopfer—Aluminum silicate, zinc sulfide, pure glycerin and small quantities of oleum iodatum, eugenol, bornyl salicylate. As dehydrating agent, for inflammations and as analgesic in pleurisy, bronchitis, inflammations of joints, furunculosis, gall bladder troubles and kidney colic, etc. Dr. Klopfer G.m.b.H., Dresden, Germany.

Calico-Coramin Ciba—Dipyridine-beta-carboxylic acid ethyl-amide-calcium sulfocyanate. Tablets, 0.5 gram. Analetpic and expectorant. Ciba A. G., Berlin-Wilmerdorf, Germany.

Complignon—Bacteria-free gonococcus antitoxin and contains no foreign albumen. Standardized by biological methods. Specific in gonorrhoeal complications. Schering-Kahlbaum A. G., Berlin, Germany.

Eu-Estol—Pure cod-liver oil, good-tasting and standardized. Irradiated to enrich vitamin D content. In cod-liver oil therapy. (See Med. Klinik, 1932, page 1183.) F. Koehler, Koeln, Germany.

Evipan—Normal-methyl-C:C-cyclohexenylmethyl-barbituric acid. Tablets, 0.25 gram. Sedative. Bayer-Meister-Lucius, I. G. Farbenindustrie A. G., Leverkusen am Rhein, Germany.

Hydropsin—Tablets containing principally magnesium oxide, containing magnesium carbonate; also small quantities of stearin, agar-agar and trace of aromatic botanical powder. For dropsy. G. Richter, Madgeburg, Germany.

Iniran—Composition for rubbing into skin in neuralgic, rheumatic and arthritic affections. Contains 0.8% menthol, 0.8% thymol, 3.21% camphor, 9.61% ammonia, 34.09% spirits of turpentine, 0.23% methyl salicylate, 19.21% distilled water, 26.37% alcohol, 2.27% pine needle oil, 2.27% rosemary oil, 1.14% nutmeg oil. (See Wolf, Deutsche Aerzte Zeitung, 1932, number 299). Franchell & Co., Hamburg, Germany.

Liver Juice Preparation—Treating anaemia. (See T. Brugsch and K. Franke, Therapie d. Gegenw., volume 73, page 284, 1932). Five hundred grams of calf's liver is ground in meat chopper and mixed with 250 cc. of water and passed through hair screen. About 400 cc. of liver juice is obtained, which is cooled with ice with addition of malt beer or 1 to 2 drops of peppermint oil.

Litin Salve—Contains oil of turpentine, solution of salicylated starch, salicylic acid, camphor, menthol, adeps lanae as salve base. Active ingredients amount to 15%. For rubbing-in in acute and chronic joint and muscular rheumatism, gout, neuralgia, etc. Togalwerk Gerhard F. Schmidt G.m.b.H., Muenchen, Germany.

Mollcerin—Neutral cholesterin salve. Perfectly homogeneous, high purity, keeping quality and water absorption. Can be easily made into an easily resorptive cream of soft consistency, not dissociating on skin, by addition of water or ½% concentrated boric acid solution. Water-absorptivity 300% and more. Apotheker Otto Schmatolla, Chemische Pharmazeutische Praepaerate, Hamburg, Germany.

Nyland Adsorbens—Composition of natural lime, magnesium, aluminum and silica compounds of volcanic origin. Easily pulverized. Treating stomach and intestinal troubles, such as ulcus ventriculi and duodeni, diarrhoea, etc. (See Weisbach and Melzer, Fortschritte Med., 1932, number 22). Nyland Gesellschaft, J. Billaud, Dresden, Germany.

Munitren—Contains white arsenic, chamomile, corrosive sublimate, anti-virus of intestinal bacteria in homeopathic solution. One tablet every 2 hours for

intestinal catarrh. Dr. Wilmar Schwabe, Leipzig, *Germany.*

Spalt Tablets—Contain 0.1 gram amidopyrine, 0.3 gram phenacetin, 0.05 gram each of benzyl succinate and caffein. For headaches. (See Klinische Wochenschrift, volume 11, 1447, 1932). Dr. Ballowitz & Co. *Chemische Fabrik, Berlin-Pankow, Germany.*

Stamochus Tablets Marfried—Strengthening intestines, treating headache and harmful effects of alcoholism and smoking. Contains 70% sugar and 30% sodium bicarbonate with starch-free binder, swelling agent, and aromatics. (See O. Keller, Apotheker Zeitung, volume 47, page 701, 1932). G. Richter, Madgeburg, Germany.

Tablets III—*Contain extract of condurango, bismuth* subnitrate, lactose, sodium bicarbonate and oil of peppermint. Treating stomach troubles and heartburn. Klosterlaboratorium Maulbronn, Maulbronn i. Wuerttemburg, Germany.

Vigantol Salve—*Contains lanolin and zinc oxide* paste as salve base; also 0.5 to 1.0 gram oil of vigantol, and lanolin to make 100 grams in all; or 0.5 gram oil of vigantol, 12.0 grams zinc oxide, 2.0 parts infusorial earth, 5.5 grams benzoated oil, 30.0 grams benzoated wool grease. Must come in contact with strongly oxidizing substances. Treating eczemas in babies, in children and adults; not for wet eczemas. (See H. Spratke, *Dermatologische Wochenschrift, 1932, page* 313).

Yxin-Charcoal Granulates—Contains yxin, charcoal and bole. Treating acute intestinal catarrhs, fermentative dyspepsia, flatulence, etc. (See Pharmazeutische Zentralhalle, volume 69, page 184). P. Beiersdorf & Co., Hamburg.

Biogold Juices—Natural fruit, vegetable and plant juices with preservative or alcohol; also nutrients, vitamin-containing and vitamin-forming substances, plant salts in soluble form for regulating acidity of blood. Used in connection with salt-free or salt-poor diet. Apple for diarrhoea; bearberry against urinary troubles; birch against rheumatism and gout; nettle against dropsy and rheumatism; watercress against blood impurities; gentian for stimulating appetite; fumitory against chronic constipation; cucumber against skin diseases and bronchial catarrhs; coltsfoot against diseases of respiratory system; St. John's wort against neuralgia; garlic against hardening of arteries; dandelion against kidney, liver and gall bladder troubles; horse-radish against gout and diabetes; couch grass against blood impurities; radish against gall bladder troubles; red beets against scrofula; sauerkraut against sluggishness of intestines and diabetes; yarrow against stomach pains; celery as nerve tonic; spinach against rickets and anaemia; ribwort against liver troubles and jaundice; tomatoes against bladder and kidney troubles; grape against gout and rheumatism; juniper berries against stomach troubles. Dr. Madaus & Co., Radebeul-Dresden, Germany.

Colotto—Capsules containing sulfurated potassa, *potassium phosphate, magnesium phosphate, sodium* phosphate, silica, dimethylaminophenyl-dimethylpyrazolon, *lithium in homeopathic and biological distribution.* For rheumatism. Max Zeidler, Colotto Versand, Hamburg, Germany.

Doloras—*Capsules containing 0.7 gram of mixture of* 26.7% of pyrazolonphenyldimethyl salicylate, 333.3% of dimethylaminophenazone, 6.7% of sodium caffeine salicylate, 33.3% of lactose. Analgesic and antineuralgic. (See Klinische Wochenschrift, 1932, page 311). Dr. Madaus & Co.

Preparin—This is 1-(3':4'-diethoxybenzyl)-6:7-diethoxyisoquinolin, synthetic alkaloid of papaverin group. *Found in commerce as hydrochloride; light yellow* powder, diffcultly soluble in cold water (about 2%) and easily soluble in hot water. In 1 and 10 gram packages; also tablets 0.04 gram each, ampulles containing 0.04 gram and suppositories containing 0.06 gram. *Treating muscular cramps; ulcus ventriculi et* duodeni, spasmodic constipation, angina pectoris, bronchial asthma, etc. (See Medische Klinik, 1932, page 310). Chemische Pharmazeutische A. G. Bad Homburg, Werk Frankfurt-am-Main.

Photodyn—*Haematoporphryine in aqueous solution.* Treating depressive conditions and melancholia in intramuscular and peroral administration. (See *Klinische Wochenschrift, 1932, page 311*). Nordmark Werke G.m.b.H., Hamburg, Germany.

Antizestot Forte—Contains castor oil, liquid extract of male fern, methylisopropylphenol (thymol) and essential oils. Treating tape worms.

Antizestot Simplex—Contains castor oil, methylisopropylphenol and essential oils. Treating worms. Karl Kramer Chemische Pharmazeutische Farbrikate, Koeln Deutz.

Combisek Tablets—Contain per tablet 0.01 gram codeine phosphate, 0.015 extract of gelsemium, 0.25 gram phenacetin, 0.25 gram acetylsalicylic acid. Analgesic. Dr. Geissler & Co. Chemische Fabrik, Essen, Germany.

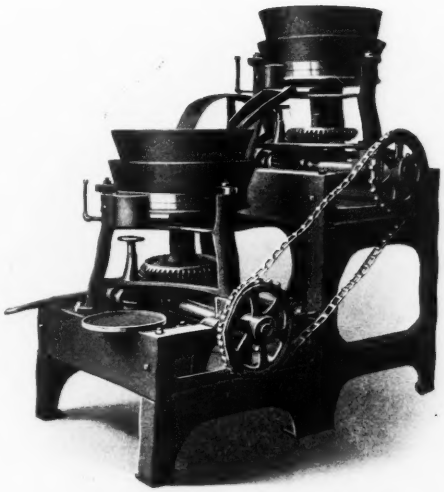
Asthmartin—Ampulles containing one cc. of mixture comprising 0.0006 gram of active suprarenal substance, 0.015 cc. of posterior lobe of hypophysis extract (equal to 0.03 Voegtlin coefficient) and 0.006 gram of papaverin hydrochloride. For asthmatic troubles. Chemische Fabrik Promonta G.m.b.H., Hamburg.

Caediazol-Quinine—Ampulles containing one cc. of mixture of 0.1 gram cardiazol and 0.25 gram quinine lactate. for fevers, infections in childbirth, etc. Chemische Fabriken Knoll A. G., Ludwigshafen am Rhein, Germany.

Consechin—Contains active ingredients of ergot (secale cornutum) 0.012 gram, quinine hydrochloride 0.023 gram, extract of gentian 0.05 gram, saccharated iron hydroxide 0.035 gram. Treating headaches of any etiology, dysmenorrhoea. (See Bonnin, Deutsche Aerzte Zeitung, number 265, volume 6). Dr. Geissler & Co., Essen.

Wet Milling

Of interest to both drug and cosmetic manufacturer is the matter of milling. *Mr. Chilson covers* the subject very thoroughly from the present day methods.



Ointment Mills in Tandem

Conical Stone Mill

It is a curious anomaly that so *little* research work has been done on the process of wet milling. To guide the judgement of the production man in need of a mill, aside from questions of output, price and construction, very little specific information is available about the comparative merits of different types of milling equipment. Each production man may have very decided opinions as to the type of mill best suited for a given product but his opinion will be very largely prejudiced by his own experience. One man may feel that nothing is quite so good for milling tooth paste as a set of milling rolls; another will feel that nothing can compare with a stone mill. The builder of the equipment can offer comparatively little help. Naturally he will favor the kind of equipment he makes, but should anyone ask for microscopic studies of the same product milled in different types of equipment, he will find them extremely difficult to get if not impossible.

But there must be differences. What these differences are and how they influence the character of a given product we frankly do not know. At this stage of progress all we can hope to do is to survey the field and to indicate preferences which personal experience and observation have shown us to be sound. The entire question revolves around several moot points concerning the real function of wet milling. Is the function of milling to reduce particle size? Is it simply to break up agglomerates? Is it to aid in homogenization? Or is it the aggregate of all of these?

Most of us rest content with the assumption that milling eliminates grittiness without caring whether that grit results from individual particle size or agglomerates. Some will look upon milling as an aid to intimate mixing, as for instance when carbolic or salicylic acid crystals are ground into an ointment. It seems to us that the usual function of wet milling is to eliminate grittiness by reducing the agglomerates and by this means to aid in the homogenization of the mass. This is especially true of tooth paste. It is our personal opinion that when material of 300 or 400 hundred mesh is being employed in the formula, particle size cannot be reduced any further in the ordinary types of mill.

One of the first questions that the production man must answer is: how many kinds of mill are there?

At this writing there are: the pebble mill, the conical stone mill, the flat stone mill, the chaser, the iron mill, the roller mill, the colloid mill.

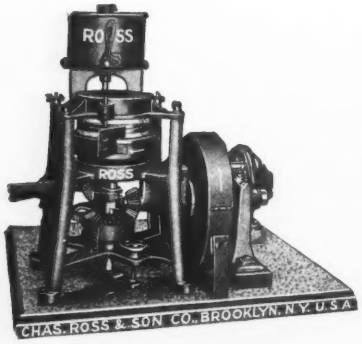
Everyone knows about the pebble mill or ball mill as it is often called. For heavy wet milling jobs it can be ruled out. The mass must possess sufficient fluidity to permit the easy movement of the balls or pebbles, because milling action is achieved by means of the concussion of the balls striking each other and attrition between them and the rotating inner wall of the drum. For materials that will flow readily the pebble mill is best suited. But for materials of a pasty nature like shaving cream or tooth paste, the pebble mill is not practical. Even if these pastes were light enough to permit the movement of the balls, dumping the charge would present many difficulties—so many in fact as to make the mill inconvenient for this purpose. It finds its widest use in this industry in dry milling, which will be discussed in another paper.

The conical stone mill is the forerunner of the flat stone mill and, next to the chaser is probably the oldest type of milling equipment in existence. As its name indicates it consists of a conical stone and a conical runner, milling being carried out between grooved surfaces. For most purposes the conical mills have been supplanted by the flat stone mills, but they have retained their popularity for extremely heavy masses like face packs and glycerinated clays. Most of the types now available are equipped with an auger to pull the paste down to the stones.

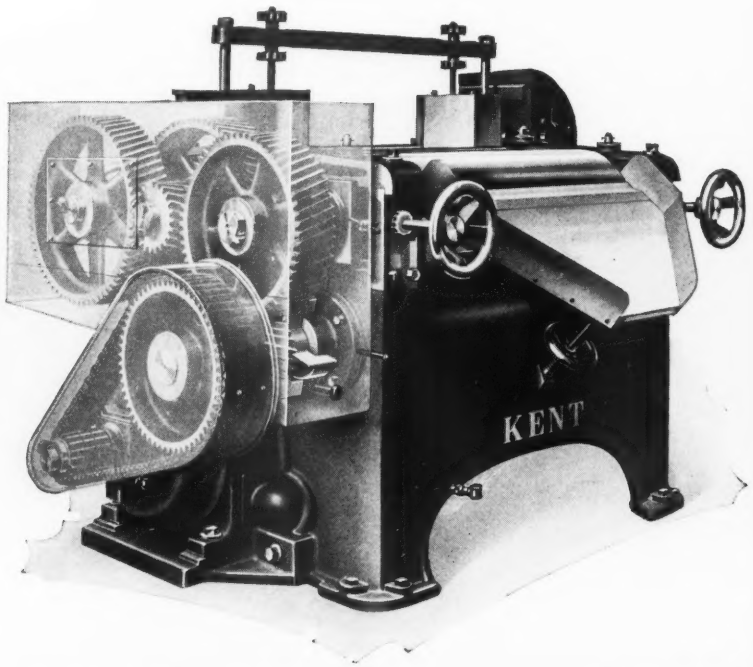
The flat stone mill is a great favorite for all kinds of wet milling and with a special feed is used also for dry milling. These mills are commonly referred to as Buhr stone mills. This is a misnomer. A stone mill may be made of Buhr stone, Esopus stone or Virginia stone. These stones differ in hardness and texture. For a material like a tooth paste an Esopus or Virginia stone should be used because of its finer texture. While for a product containing an abrasive solid and for dry milling the Buhr stone should be used. As a rule the grooving in these several stones is cut differently to provide for the kind of product each has to mill. In all cases however they are constructed and operated similarly, the mills being fed through the eye and the grinding achieved between a stationary upper stone and the under runner. The stone mill is a favorite for milling ointments, tooth paste, shaving cream and dry products like rouge. The product must have enough fluidity to flow; heavy pastes cannot be milled on this type of mill.

The chaser is an old timer and is so little used in this trade that its merits scant attention. It consists of an open pan with a rotating bed and a pair of horizontally mounted stone rolls which revolve in a direction opposite to the movement of the bed. A plow is attached in such a fashion that the wave is turned over into the path of the rolls. Like the stone mills they can be used either for wet or dry milling. In wet milling their use has been largely confined to very heavy pastes like Antiphlogistine and in dry milling for grinding crude drugs.

The iron mill otherwise known as a paint mill or an ointment mill, consists of a hopper, with a series of "grinding points" along the periphery an da rotating bed. The paste is sucked out of the hopper and ground by forcing in through the minute interstice between the surface of the under runner and the grinding points.



Above: Flat Stone Mill



At Right: Roller Mill

Pharmacy of Triethanolamine

By Adrien Albert and S. Dattilo Rubbo*

IN SPITE of its cumbersome name the substance Triethanolamine has a relatively simple structure:—$(CH_2(OH)CH_2)_3N$.

It may be regarded as ammonia in which the three hydrogen atoms have been replaced by three ethyl alcohol groups. Although formerly a rare chemical, since 1929 it has been manufactured in steadily increasing quantity in the United States. The literature of Triethanolamine is not extensive; it consists of probably not more than ten papers, of which two are medical references to certain of its pharmacological effects; two, from perfumery journals—consist of brief notes on its use in cosmetics; one refers to its application in oil transport; one discusses its use in agricultural sprays. The remaining four are of a more comprehensive nature. Indeed, so astounding are the claims that they advance for the new product, and so numerous are the uses suggested, that one would be excused a suspicion that some of the research described had been undertaken on behalf of the manufacturers. So far no investigation of triethanolamine has been made from a pharmaceutical point of view. It seemed to us that if triethanolamine possessed a proportion of the properties ascribed to it we should have a grateful addition to the pharmaceutical armamentarium.

From its constitution $(OH.CH_2.CH_2)_3N$ triethanolamine may be expected to possess certain of the properties of ammonia or of a tertiary amine and of an alcohol, monohydric or polyhydric. These expectations are justified by the following data which we have collected, and which may be used for the recognition of the base:—

It is a clear, syrupy, hygroscopic liquid of alkaline reaction, with a sweet, nauseous taste and a faint basic odour.

Ferric chloride solution gave a brown precipitate, copper sulphate a blue one, soluble in excess. Silver nitrate gave a brown precipitate, soluble in excess to give a solution yielding a black deposit on boiling.

A solution of iodine and potassium iodide in water produced in the cold a yellow precipitate and odour of iodoform, without the addition of inorganic alkalies.

Mercuric chloride gave a white precipitate that became grey on boiling.

It did not reduce Fehling's Solution or yield a precipitate with lead acetate solution.

It liberated ammonia from ammonium chloride in the cold.

Triethanolamine (and its stearate) neither darkened nor appeared to react in any other way when kept with solution of hydrogen peroxide for one month.

Triethanolamine forms soap with the fatty acids. These soaps resemble common (alkali metal) soaps in many ways, but also differ from them in several respects, as shall be shown below. Whilst these soaps of triethanolamine are of some pharmaceutical importance, the base itself is of little use except in preparing them.

Triethanolamine was found perfectly miscible with methanol, ethyl alcohol, isopropyl alcohol, acetone, chloroform and glycerin. It will not mix with liquid paraffin, ether, ethyl acetate, methyl salicylate, petroleum ether, castor oil and the other pharmacopoeial fixed oils.

In place of the lengthy name "Triethanolamine" in the literature we usually find "Ethanolamine." Where a short name is required to designate the product we humbly suggest that the following codifications be employed. Their use has the further advantage that the name of a pure chemical is not given to what is really a mixture of related bodies:—EBase (Triethanolamine, commercial); ESoaps (the Stearate, EStearate; and the Oleate, EOleate).

Triethanolamine Soaps

Triethanolamine soaps are formed by mixing the base with the appropriate acid in the proportions given by their respective combining weights as determined by titration against standard acid and alkali. As triethanolamine and fatty acids are weakly basic and acidic respectively they cannot be titrated against one another. If the soaps are required odorless and neutral the reacting bodies must be carefully combined in this way, but if, as is often the case, the soap is to be used with extra fatty acid, it is conveniently prepared by mixing one part of base and two parts of acid, both by weight. A soap containing excess of base is unsuitable for use in emulsions, as the base precipitates the soap from its solution in oil. The acid and base must be stirred together intimately until thickening ceases. This operation was performed in a mortar, except in the preparation of the stearate, where the heat of a boiling water bath is required. As the soaps (though not the base) have pharmaceutical uses it is possible that they will become available commercially.

It is important to notice that the fatty acid attaches itself to the nitrogen of the molecule, and not to the hydroxyl groups. Consequently no water is liberated during neutralization. As the commercial samples of the base contain a trace of water the soaps gave opalescent instead of clear solutions with oils. This was not the case when the soaps were first dried on the boiling water bath, but if they were heated too long

*Delivered before Australian and New Zealand Association for Advancement of Science.

at this temperature they darkened. There is, however, no risk of decomposing the soaps through volitalization of the base, for its boiling point is said to be as high as 277 deg. C. under 150 mm. pressure.

The general properties of the triethanolamine soaps will now be described.

Triethanolamine soaps are pale yellow solids or liquids, translucent, tasteless and odorless. They dissolve freely in water, alcohol, ether, chloroform, acetone, glycerin, toluene, benzene, ethyl acetate, kerosene, petroleum ether, "petrol," carbon tetrachloride, and turpentine. They are fairly soluble in liquid paraffin and less soluble in vegetable oils, but the addition of a little free fatty acid increases the solubility. They are insoluble in soft or hard paraffins. Like the common soaps they are incompatible with acids, strong solutions of salts, and with solutions of the salts of bi- and ter-valent metals.

Not only the aqueous, but also other solutions of the triethanolamine, soaps froth when shaken (e.g., the "petrol" solution). Yet none of the solutions forms a lather when used in cleansing. This does not prevent their having detergent properties, but limits the sphere of their usefulness. In this connection it is interesting to note that the following properties alone are requisite for a soap to possess detergent properties:— It must wet the greasy surface, emulsify the grease, and stabilize the emulsion formed. It will be shown that triethanolamine soaps possess all these properties. During the course of these experiments we made personal daily use of the oleate as a toilet soap, principally for cleaning work-stained hands. It seemed quite effective; the skin was left supple and smooth. This may be due to the fact that, unlike the usual sodium soaps, it does not give an appreciably alkaline solution. The pH value of 1 per cent solutions we found to be 8.0, as against 9.5 for 1 per cent solutions of Hard Soap B.P. These values make it appear likely that we have, in triethanolamine more truly neutral soaps than have so far been obtained.

The triethanolamine soaps possess strong emulsifying properties. They are said to be non-toxic, but should not be used internally until a complete pharmacological vindication has been published. The emulsions formed belong to the oil-in-water type: their permanency depends on the nature of the dispersed phase. The oleate was found to be the most easily incorporated of these soaps, and is recommended for general use. The stearate is to be preferred for use in toilet preparations and wherever a firmer and whiter product is required.

The particular properties of the individual soaps will now be described.

Triethanolamine Stearate

The preparation of this soap has already been described. It may also be prepared in solution by adding the base to an alcoholic solution of stearic acid, for its alcoholic solutions do not gel, as do those of sodium stearate. It is a pale orange-yellow solid, brittle and unctuous, resembling in appearance the lead plaster of the Pharmacopoeia M.P., c.a. 75 deg. C. It is slightly hygroscopic, and samples exposed to the air for one week gained in weight approximately 4 per cent. The solution in water is translucent and gelatinous. Its water absorbing powers suggested a use for it in ointment bases. Formula 1 (see appendix), which contains hard and soft paraffins in the same proportions as does Paraffin Ointment B.P., with the addition of 10 per cent of triethanolamine stearate, is designed for use as a paraffin ointment base capable of retaining water. It is a golden yellow mass of the consistence of paraffin ointment, and will absorb, on the slab or in the mortar, 50 per cent of its weight of water to give a product of the consistence of lard. Further addition of water (60-100 per cent) produces cream of varying thicknesses. This ointment base and those that follow were incubated at 39 deg. C. for 24 hours without being adversely affected. Formulas 2 to 5 represent various types of paraffin emulsions suitable for use as water-containing or refrigerant ointment bases. Formula 2 contains the same percentage of beeswax and paraffin as the A.P.F. Ceratum Aquae Rosae. It contains 11 per cent of water and is ivory colored and translucent, a property common to triethanolamine emulsions poor in water. Formula 3 gives a product white and lustrous. It contains 47 per cent of water, and is a soft cream. Harder creams are obtained by the addition of stearic acid. Formulas 4 and 5 contain respectively 40 per cent and 50 per cent of water. They are highly refrigerant creams, gleaming white. Both are equally firm, but melt readily when smeared over the skin.

In making triethanolamine stearate emulsions the acid and soap were melted on the boiling water bath with whatever insoluble bodies were present. The water and other ingredients were brought, if possible, to the same temperature and added slowly, with constant stirring, to the oily mixture, preferably in a hot mortar. For other ways of preparing these emulsions see methods given under "Triethanolamine Oleate."

Formulas 6 and 8 are intended for use as greaseless ointment bases. They are economical (consisting principally of water) and elegant, for they develop on standing for ten hours a remarkable sheen, like powdered aluminium, such as is obtained in the usual stearate creams only with much manipulation and difficulty. Formula 7 demonstrates the use of this type of base; the preparation, a greaseless analgesic ointment, resembles closely a type of proprietary ointment frequently ordered in prescriptions. We have caused it to contain the same proportions of active ingredients as are present in Compound Menthol Ointment A.P.F. Formula 8 is the A.P.F. Hamamelis Cream adapted to contain triethanolamine stearate instead of sodium oleo-stearate. It appears to us to be a superior preparation, and makes an even more elegant product than does Formula 6. In making these

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Throughout the process of bleaching, the original characteristics of the high grade crude beeswax are retained, resulting in a product of extraordinary value to the cream manufacturer. The high melting point and character of T. L. PURE WHITE BEESWAX imparts to the product a very high emulsion value. This property enables the cream manufacturer to use less beeswax in the preparation of the cream and with the assurance that the emulsion is permanent.

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emulsions we were careful to beat as little air as possible into them, with the result that they have shown no tendency to shrink. When diluted with water formulae 6 and 8 produce lotions of the type of Compound Benzoin Lotion A.P.F., but as they still retain their "powdered aluminum" sheen they present an attractive and desirable appearance. This particular sheen will not be recognized as being similar to that of certain imported toilet lotions. Formula 8a serves for the preparation of such a lotion, in which suitable medicaments may be exhibited, while formula 9 makes a greasy liquid base, white and lustrous, of suitable consistency, and non-separating. Formula 11 exemplifies the type of base that incorporates a vegetable oil. It forms a firm, ivory-colored cream.

These formulae are entirely original, and were obtained only as the result of a great deal of experiment. They do not necessarily form products individually superior to other bodies of the same class; extensive practical use alone can prove them. We would say, however, that all of the preparations have properties that render them interesting, beyond their common property of being cleanly in use and easy to remove.

Apart from the uses suggested for them in (medical) pharmacy definite employment of many of these formulae is likely to be found in cosmetics. Suitably perfumed they suggest employment as cold creams (3, 4 and 5), complexion wax (2), combination creams (3 and 4), vanishing creams (6 and 8), cleansing cream (10), benzoin or almond lotions (8a). Both formulae 8 and 11 make satisfactory latherless shaving creams for use with cold water; the cream is rubbed over the wetted skin; it softens the beard, which is shaved off. These are variants on two or three formulae, and did not give very satisfactory products. This is not surprizing; good toilet preparation formulae are not usually published.

Triethanolamine Oleate (E.Oleate)

Triethanolamine oleate is a clear, pale yellow solid with the appearance and consistence of soft paraffin B.P. It is somewhat hygroscopic, and samples exposed freely to the air gained finally 9.1 per cent in weight. It is almost tasteless, and has a pleasant saponaceous odor. It stiffens greatly on the addition of water, and is thickest when from one and a half to two times its weight of water has been incorporated. On further dilution a stiff cream is produced; the solution becomes as mobile as water only when ten times its weight of the latter has been added; the solution does not become translucent until it is further reduced to a strength of 5 per cent; it does not become entirely free from color until diluted to 1 per cent. The mixture then resembles a 1 per cent solution of "soap" in appearance, but has a pH value of only 0.8 (c.f. 1 per cent Hard Soap, above).

We have found that it is precipitated quantitatively form elegant fluid preparations. They are not suitable base, which is insoluble in oils. This precipitation process has been recommended for use in oils containing suspended matter. We found it inefficient in removing, for instance, magnesium carbonate suspended in arachis oil. Mixtures of equal parts of triethanolamine oleate and 90 per cent alcohol, or of equal parts of the soap, spirit and water, form elegant fluid preparations. They are not suitable for use in shampooing, as no lather is formed to raise the emulsified grease above the head of hair. They may prove to have other uses as detergents, for instance, in degreasing the skin in acne. Formula 12 contains the same amount of soap, spirit and glycerin as the Surgical Soap of the A.P.F. The proportion of alcohol may be reduced to 17.5 per cent if desired. Formula 13 is an ethereal soap. It maintains the proportions of the A.P.F. preparation, but the proportion of the ether to alcohol may be increased indefinitely, as is not the case with common soaps. A solution may be obtained in this way that is more truthfully "ethereal," and also more economical of alcohol. This solution was found not to be compatible with mercuric iodide (black precipitate).

Equal parts of the oleate, glycerin and water form a thin paste. Equal parts of water and a 50 per cent solution of the oleate in glycerin formed a thick opaque liquid.

Twenty per cent solutions of the oleate in "petrol" and in carbon tetrachloride were prepared. The solutions appeared slightly cloudy, and were filtered. They have been recommended for cleaning garments soiled from chemicals and preparations containing grease. The solution is sponged on and allowed to evaporate. The spot is then rubbed with water. The oleate, according to theory, is carried by the solvent into the meshes of the tissue, where, on the addition of water, the grease is emulsified and washed out. It was not felt that the scope of this paper called for extensive experiments in this direction, but those that were made turned out satisfactorily.

Triethanolamine oleate has been recommended to keep paint in suspension. It occurred to us that it may also exert its stabilizing action in gelanicals that settle rapidly, such as calamine lotion and thin zinc cream. Two samples, two ounces each, of Calamine Lotion A.P.F. were prepared. To one 5 per cent of the oleate was added. Both bottles were equally shaken. In the case of the bottle containing the oleate little separation occurred in three hours. The other bottle showed in one minute slight separation; in two minutes, ¼" clear liquid; in three minutes, ½" clear liquid; in 24 minutes 1" clear liquid; in 180 minutes, 1.6" clear liquid.

The possibility of chemical action having taken place occurred to us, but similar results were obtained with suspensions of inert bodies, e.g., talc (4 per cent). These effects were obtained in a far less degree when 5 per cent of sodium (instead of triethanolamine) oleate was used. The system triethanolamine oleate, oleic acid, alcohol, water and liquid paraffin forms an interesting study. Formula 14 shows a preparation containing 20 per cent of water and over 40 per cent of

(*Continued on page 548*)

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Scalp Preparations

A general outline of scalp preparations whose therapeutic bases are emphasized and the need for more intensive research stressed.

NEARLY every person young or old, male or female is affected with some kind of scalp affection, hence scalp preparations enjoy a very wide market. That there is need for intensive research in this field no one, after a survey of existing products, can doubt. This entire group lies in that division of cosmetics which have or should have therapeutic properties. Heretofore the trade has been content with making unsupported claims, but the time is coming on apace when clinical proof will have to be given to satisfy medical authorities, who are already beginning to initiate regulatory legislation.

Aside from the work of a very few specialists comparatively little research is being devoted to scalp preparations. The trade has concentrated more on beautification than upon corrective or therapeutic products. With these therapeutic products the function and the future of cosmetics is indissolubly linked and they emphasize the essentially pharmaceutical nature of cosmetic preparations.

There is no doubt but that sales of scalp preparations could be increased considerably if the reputable houses of the trade were to devote more advertising to them. Much of the scalp preparations advertising one sees is of the "sucker" type; it makes all sorts of ridiculous claims, and, as a rule, is propagated by firms lacking facilities and funds for adequate research. The public is, as a consequence of unbridled claims, highly skeptical of some scalp preparations, dandruff "cures" especially. The effect has been that scalp conditions are accepted with fatalistic tolerance and no remedial steps are taken until the condition becomes serious.

Could the public become persuaded of the integrity and effectiveness of the average scalp product, it might be persuaded to begin remedial measures as soon as a scalp condition is manifest, and this would boost the sales of scalp specialties enormously. So long as people continue to live in over-heated, over-dry houses; so long as they continue to be careless in matters of diet and exercise and in the manner in which they care for their hair and scalps, just so long will the market for corrective scalp products continue. The extent of this market can best be appreciated when it is realized that scalp preparations appeal as much or even more to men than they do to women. But the average man gropes in the dark; only sporadically does he attempt to remedy his scalp condition, and then his efforts usually consist in paying the barber a few cents extra for a "treatment" whenever he gets a hair-cut. With effective products and proper educational advertising every person might be persuaded to give early attention to scalp conditions with entire faith in the products employed.

Among numerous scalp affections the most common are: baldness (*alopecia*), spot baldness or falling hair (*alopecia areata*), dandruff (*seborrheic dermatitis*)—this condition is of two types: oily and dry—, the itch or barber's itch (*scabies*), eczema, scaliness (*psoriasis*). Besides these there are a host of temporary affections resulting from the use of drugs, hair dyes and the like for which certain people have an idiosyncrasy.

As many scalp conditions are the result of poor circulation in the scalp and lack of exercise of the muscles in that area, it is best to emphasize on the direction label or circular, that treatment should always be accompanied by vigorous scalp massage and the use of heat. Massaging tones the muscles; heat brings blood to the affected area and assists the remedial action of the preparations. The heat should be applied directly after the preparations have been put on and before massaging. Just rubbing the head vigorously is not sufficient; there are certain manipulations that are scientifically correct and should be described and illustrated.

When the scalp condition is due to poor blood, or some dietary or organic condition, as alopecia often is, external therapy can only be temporarily effective at best and hence it is desirable to explain in your literature that there may be a need for a change of diet or suitable medicines, in which case the whole treatment internal and external should be supervised by a competent physician. Incidentally a recent issue of the A. M. A. Journal contained an interesting report on the treatment of alopecia by means of injections.

In giving the following typical formulas our purpose is to illustrate the usual materials and methods of compounding and to stimulate research. No claim is made for any of them; some are still in the experimental stage and all will require testing before use.

(*Continued on page 546*)

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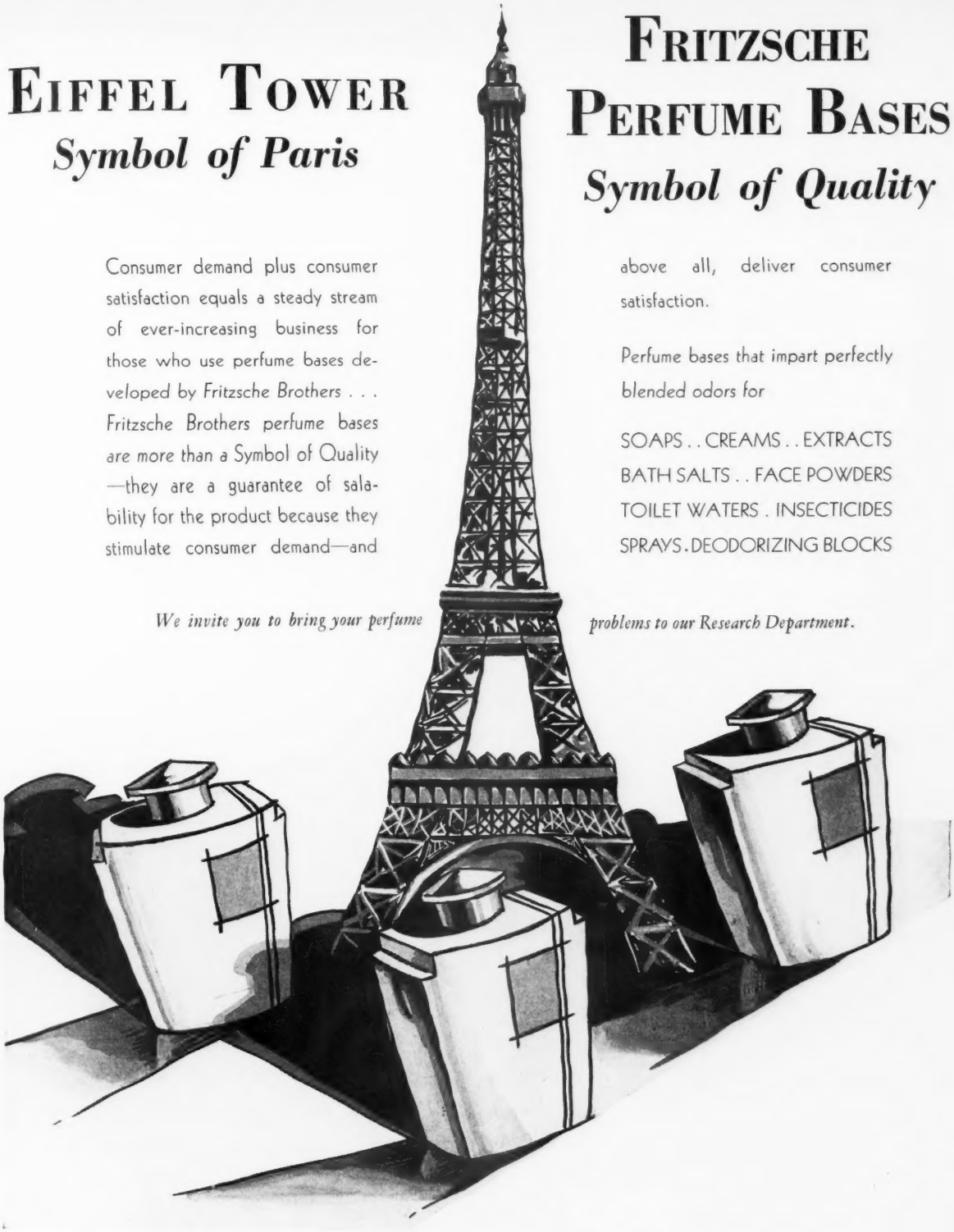

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The Compounders' Corner

Absorption Through Skin

Skin will not absorb every fat or grease. Some merely cover with protective film. This is important in compounding skin foods and like. Interesting experiments were recently carried out on guinea pigs to determine exactly how effective certain penetrants or absorptives are. Tests were made with white petrolatum, cold cream (containing wax, spermaceti and almond oil in saturated water-fat emulsion form) and hydrous eucerinum, that is an unsaturated emulsion. These bases were mixed with India ink and vigorously rubbed into skin of guinea pigs. Microscopic sections of skin were examined to determine how far colored salve base had penetrated skin. There was no penetration with petrolatum, which agrees with common experience. Therefore it should never be used for preparations containing active ingredients that must be absorbed to exert their action. Hydrous eucerinum penetrated almost to true skin through entire epidermis. Cold cream penetrated only to hair roots. Hence cold cream may be used in hair preparations for aiding growth of hair, while hydrous eucerinum should not be used for preparations containing somewhat toxic ingredients which are not desirably absorbed into blood stream. It is noticed that water-in-oil emulsions are strongly absorbed by skin, and degree of absorption increases as water-in-oil emulsion becomes more hydrophile.

Pearl Luster in Skin Creams

This effect can be produced in various graduations. Simplest way of obtaining it and also most expensive is to emulsify pure stearin with dilute (10%) ammonia in the hot and then add alcohol. This serves for stearate creams but not for shaving preparations. Luster can also be produced by allowing preparation to stand for some time. Superfatted preparation usually containing considerable stearin acquires luster in this manner. Triethanolamine for producing pearl luster is very effective. This base is used together with ammonia for emulsifying stearate and other creams.

Nail Polishes

When liquid nail polishes are made from esters or ethers of cellulose, such as nitrocellulose, cellulose acetate, it is necessary to include plasticizer, softener in or solvent preparation. There are great number of these on market and many are added each week. It is task to select ingredients, but nail polish maker need not be so particular about them, as any well-established plasticizer, solvent or softener will do. For example liquid nail polish may be made of 25 grams of celluloid, one cc. of methyl-paratolyl-ketone, 250 cc. of amyl acetate, 750 cc. of acetone and 0.1 gram of phloxine P. In another preparation, resorcinol diacetate is used as plasticizer and ethyl lactate as solvent together with methyl-acetone. Proportions are 100 grams of nitrocellulose, 100 cc. of resorcinol diacetate, 200 cc. of ethyl lactate, 600 grams of methylacetone and 5 cc. of 1% alcoholic solution of carmine. It is essential that liquids be allowed to stand for several days so they are clarified.

Anti-Fat Preparations

Use of pine needle oil and vinegar or acetic acid in combinations, thickened with vegetable mucilages, such as salep slime, is based on fact that pine needle oil irritates skin and increases flow of blood through it. It is also supposed to increase break-down of cells resulting in loss of weight. To illustrate how harm can be done the cosmetic industry by introduction and sale of spurious preparations, particularly for reducing weight, it may be mentioned that recently a preparation was recommended containing stearin, glycerin, lanolin, potassium carbonate, white beeswax, water and perfume. Addition of lecithin was also advised. This preparation is nothing more than a semi-saponified stearate cream and therefore much like soap. It is difficult to see how such a preparation can cause reduction in weight, for if it does, then everyone who uses soap daily would be thin as a rail.

Sensitivity of Skin

There is hardly any subject on which there is more confusion and contradictory theories, and yet it is of greatest importance to makers of cosmetics. Practically every preparation must not harm skin. Recently, it has been developed that skin is covered with acid film as natural protection against disease germs. Hence, use of preparations of strong alkaline reaction destroy this film and expose skin to action of cosmetic ingredients. Natural procedure is to use acid-reacting products in compounding cosmetics, as formic acid, tannic acid, butyric acid, citric acid, camphoric acid, cinnamic acid and boric acid. However, these acids cannot be used without limiting concentration. Compounder must know what concentration not to exceed, for all these substances, even boric acid (so it is claimed), will injure skin when used in too high concentration.

Antiseptics in Tooth Pastes

Various esters of parahydroxybenzoic acid are used. Sodium salt is odorless and tasteless; methyl ester is 1.6 times, benzyl ester 57 times as effective as carbolic acid. Esters of dichloroparahydroxybenzoic acid are also used. Added in 1% of weight of tooth paste or powder. Hydrogen peroxide affects saliva reducing power to decompose starch to dextrin. Boric acid is only weak antiseptic and resembles borax in action. Three to five per cent. is used. Perborates and peroxides loose their activity in tooth pastes containing soap and glycerin after comparatively short time in tube. They are more suitable for tooth powders. When using phenol or carbolic acid in tooth pastes, it must be remembered that alkali in latter may react with phenol with result that antiseptic aciton is lost. Formaldehyde is an antiseptic but has harmful action on ferments, disatase and catalse. In alkaline, soap-containing preparations it soon changes to paraformaldehyde with result that products kept for any time show only trace of formaldehyde. Thymol is effective but taste is hard to hide. Investigators have found that it does not have as great antiseptic power as claimed. Salicylic acid and phenyl salicylate are active substances, but alkali in tooth paste will form sodium salicylate which has little or no antiseptic action. Dermatologist claims that both salicylic acid and phenyl salicylate will cause dermatitis when used for long time.

Pancreatin in Tooth Paste

Enzymes in tooth pastes are not new. Their purpose is to solubilize film over teeth and effect its easy removal by cleansing action of water and other ingredients of paste. It is moot question that sufficient time is allowed during application of tooth paste for action to take place to sufficient degree to be effective. Maker of tooth pastes and other cosmetics and toilet articles must bear in mind that it requires certain time for any chemical reaction to go to completion and time varies according to conditions. It is one thing to incorporate ingredients intended to react chemically to produce desired effect, and an entirely different matter to get user of product to allow sufficient time for reaction to take place. Tooth paste, containing such enzyme as pancreatin, will be effective if allowed to contact teeth long enough; otherwise it is no better than ordinary compositions. Compounder may get around this by using higher concentration of active ingredient,

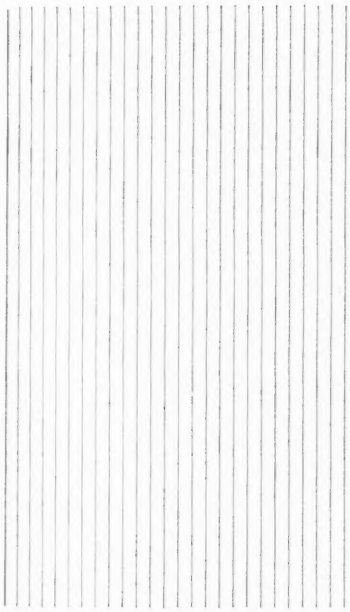
Merry Christmas and Happy New Year

We heartily appreciate our associations of the past year, and extend our sincere thanks to those whom we have been privileged to serve.

We trust that the service we have rendered will be reflected in the continued faith and confidence of our patrons.

We pledge ourselves anew to maintain our usual standards of finest quality and ethical service and hope that we may contribute toward making the coming year most successful for you.

May our appreciation of your good-will be expressed in our sincere wish that your Christmas may be merry and your New Year one of happiness and prosperity.



JARDIN de JUIN

Jardin de Juin represents the subtle fragrance of a garden in the cool of evening. This odor-complex is suited to use in all types of preparations and is especially effective in creams and powders.

COMPAGNIE PARENTO, Inc.

EXECUTIVE OFFICES AND LABORATORIES
CROTON-ON-HUDSON, N. Y.

NEW YORK
507 FIFTH AVENUE

CHICAGO
5748 N. CAMPBELL AVENUE

CANADIAN BRANCH:
TORONTO, ONT.
73 ADELAIDE ST., W.

with due consideration, of course, of possibility of harm due to too high concentration. In this case tooth paste contained 25 parts of precipitated chalk, 2.5 parts of soap, 0.5 parts of peppermint oil, 0.5 part of pancreatin and enough glycerin to give proper consistency.

Acetone in Cosmetics

Acetone is good solvent for fats, oils, including some essential oils. Physiological action of acetone on human system has been investigated and conclusion reached that it is harmless. This does not mean that there are not some persons sensitive to acetone, but even oil of peppermint in tooth pastes or powders has bad effect on some people. Acetone has strong disinfecting and preservative action. Its boiling point is low, volatility high and flame temperature low. Odor is not disagreeable. Novel and good results may be obtained with it as substitute for part of alcohol in cosmetics. Whatever action is taken in adopting this substance, must be based on observation of action of manufactured product in hands of consumer.

Bases for Dentifrices

While precipitated chalk is principal base for tooth pastes and powders, it is not the only one that can be used. Magnesium carbonate can sometimes be used. However, cleansing properties are only slight and it can not be used with soap particularly when paste contains precipitated chalk also. Reason is such pastes often harden and lose effectiveness. Magnesium oxide is another base, but should only be used in powders.

Calcium phosphate has gained popularity in tooth pastes. It is good base and abrasive, but it should be used in tooth pastes containing large proportion of glycerin. This indicates calcium phosphate pastes are more apt to dry hard than those containing chalk. Kieselguhr has also been recommended, although it is essential that special grade should be used that is iron-free; otherwise paste does not work well on teeth. Kieselguhr should be used only in small proportions in tooth pastes and even then color of paste is grayed.

Interesting base for tooth powders is silica gel. This is very finely pulverized powder, possessing great cleansing and deodorizing action. While compounder has not done much with this as yet, it affords possibilities. More interesting product is silica gel in gelatinous form. Gel then contains 90% water and looks much like white petrolatum. Experiments have shown that stable pastes, keeping for a long time, are obtained with incorporation therewith of glycerin, kieselguhr, titanium dioxide and slimy substances or gelatin.

Experiments with aluminum hydroxide gel have proven this substance suitable for tooth pastes but little use has been made. Amorphous alumina is also suited. Colloidal kaolin is useful in tooth pastes for absorbing alkali from foodstuffs remaining on teeth and this makes difficult for growth of bacteria in mouth.

Titanium dioxide has always been an interesting product to cosmetic makers. It gives highly effective tooth paste and powder and it does not tend to form tartar. If market will stand extra cost of this, it is worth considering. Attention may also be called to new product, patented in Germany, for making tooth powder base from alkaline earth sulfates prepared in silica gel by conversion of silica sol containing sulfate ion with soluble salts of alkaline earth metals.

Saponins in Shampoos

Saponins are often used in shampoos to increase lather. When used alone in hair shampoos, it is not necessary to rinse hair with water. Saponins are used in alcoholic solution and will lather and cleanse hair well. Furthermore, they will not injure wave in hair. User of saponins must remember there are 7 different saponins. Perhaps most important is saponin from soap root or soap wort. Another largely used product is obtained from quillaia bark or panama wood. Particular advantage of this saponin is strong lathering quality of its 40% alcoholic solution. This saponin is also used in other cosmetics and toilet preparations, such as mouth washes, tooth pastes, etc

New Odds and Ends

Use of sodium and lithium salts of hymatomelanic acid has been recommended in preparing cleansing baths. New Italian liquid toilet cream has following formula: 25 parts refined lard, 8 parts lanolin, 4 parts white beeswax, 20 parts almond oil, 6 parts spermaceti, 25 parts soap powder and 12 parts water. Lanolin is rubbed with water and soap powder added and mass rubbed into homogeneous mixture and heated oil added. New German hair lotion contains one part cholesterin, 0.3 part lecithin in 200 parts of 96% alcohol and mixed with 3 parts castor oil. Another solution of 0.5 part oxyquiniline sulfate and 0.2 part salicylic acid in 75 parts 96% alcohol is added and mixture made up to 300 parts by weight.

Aluminum hydro-silicates have been suggested for use, either alone or in admixtures, in making shaving creams. Combination of alkali or alkaline earth sulfides with purified saponins gives exceptional results as depilatories.

Copper Oleate and Zinc Stearate

These are particularly interesting to cosmetics compounder. First is very active in form of 10 to 20% dilution in salve base for removing warts, cuticle, freckles and other skin growths. Latter is better known in baby powders. Zinc stearate is also useful in preparations for acne, eczema and various skin affections.

Vanishing Creams

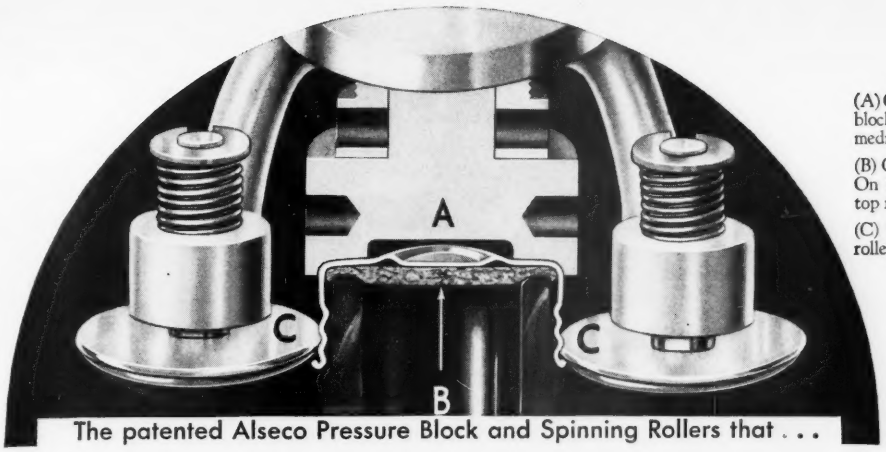
Stearate creams are widely used but there are difficulties in making them. Stearin is neutralized with alkali. This causes trouble. Soda generally gives too hard cream with tendency to lump. This happens particularly if cream is not thoroughly agitated while carbon dioxide gas is evolved. Danger of excess alkali in cream makes necessary to add cocoa butter or other superfatting agent. Formula has been worked out for high grade vanishing cream claimed to stay soft for period of years. Thus 5 parts of cocoa butter are melted with 25 to 30 parts of pure stearin on water-bath at not above 100° C. Warm solution, 60° C., of 100 parts water, seven parts potash, eight parts borax, 16 parts glycerin, 12 parts alcohol and 3 parts ammonia, is added to 30 parts of molten mass. Much carbon dioxide gas is liberated, which necessitates large kettle for operation. Vigorous agitation is required. After most of carbon dioxide has escaped, hot-filtered solution of 0.5 part agar-agar in 20 parts water is added and mixture stirred until cool. Perfume is added shortly before mass congeals. Cream is filled into containers after standing 1 to 2 days.

Mosquito Cream

Good results can be secured from composition containing 5 parts powdered wheat starch, 10 parts water, 15 parts glycerin 28° Be., 30 parts lanolin and 5 to 10 parts oil of clove. Starch is rubbed into smooth paste with water; glycerin is mixed in and mass converted into jelly-like consistency by heating and agitating; it is then allowed to cool.

Lip Stick

Lipstick is composed of siliceous materials, water soluble dyes and binder composed of substances soluble at ordinary room temperature, readily fusible and non-soluble in respect to water soluble dyes. Lipstick is self-sustaining and adapted to apply uniform semi-permanent color when lips are wetted. It possesses curative and chapping-preventing action. Formula prescribes 26.7% talc, 13.3% kaolin, 10.9% ponceau 3R 6.3% amaranth, 17.1% yellow ochre, 5.7% zinc oxide, 3.6% paraffin, 5.9% beeswax, 2.4% carnauba wax, 1.7% sulfonated oil and 3.1% petrolatum. Body materials, that is talc and kaolin, are mixed, then dry coloring matter is added including ponceau, amaranth and yellow ochre; then zinc oxide and finally binder which is first fused so that mixing with binder takes place above melting point of same. Mass is mixed well until plastic and poured into sticks. Some other ingredients mentioned include eosine Y, tartarazine, borax and bentonite. Sulfonated oil in lipstick aids dispersion of color on skin. Woldemar M. Sternberg, Oak Park, Ill. U. S. P. No. 1,869,782, filed January 16, 1926.



(A) Cross section of Alseco pressure block, which fully seats the sealing medium.

(B) Cross section of Alseco Rolled-On Seal, showing how the bottle top indents the liner.

(C) The patented Alseco spinning rollers.

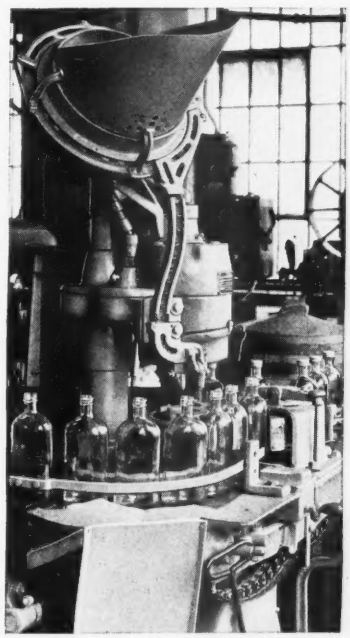
The patented Alseco Pressure Block and Spinning Rollers that . . .

tailor an individual cap, without jamming or twisting, on each bottle of "Norcohol" and other Norwich Pharmacal Company best sellers

Fitting the cap on each bottle of "Norcohol" without rotating either, eliminates "leakers" and "breathers". That's what the Alseco Sealing Machines do for Norwich Pharmacal Company and many other manufacturing drug companies.

The pressure block on the Alseco machine seats the cap firmly, allowing the bottle-lip to indent its own liner. Then the spinning rollers tailor the skirt of Alseco Rolled-On Seals *into the threads* of the individual bottle.

Let us show you just how this insures a hermetic sealing free from "leakers" and "breathers." We'll furnish the machine, the operator, the seals—seal your bottles in your own plant. We'll abide by any test you choose to use on the capped bottles. You'll find no "leakers" or "breathers."



Actual photograph of Alseco sealing machine applying Alseco Rolled-On Seals in Norwich Pharmacal Company plant, Norwich, N. Y.

With slight adjustments, Alseco machines will cap tall or short, wide or narrow-necked containers, one-ounce bottles or gallon jugs. Alseco automatic machines cap up to 130 bottles a minute, non-automatic machines as low as 15 a minute. Vacuumizing equipment is available, too, if desired.

Compare Alseco Seals and Sealing Machines with your present, or any other, capping equipment. Send the coupon for an Alseco demonstration. Please address ALUMINUM SEAL COMPANY, NEW KENSINGTON, PENNSYLVANIA.

ALSECO

Seals and Sealing Machines

ALSECO SEALS TRADE MARK

Aluminum Seal Company, New Kensington, Pa.

Please send me particulars about Alseco Seals and Sealing Machines.

Name .....

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Name of Company .....

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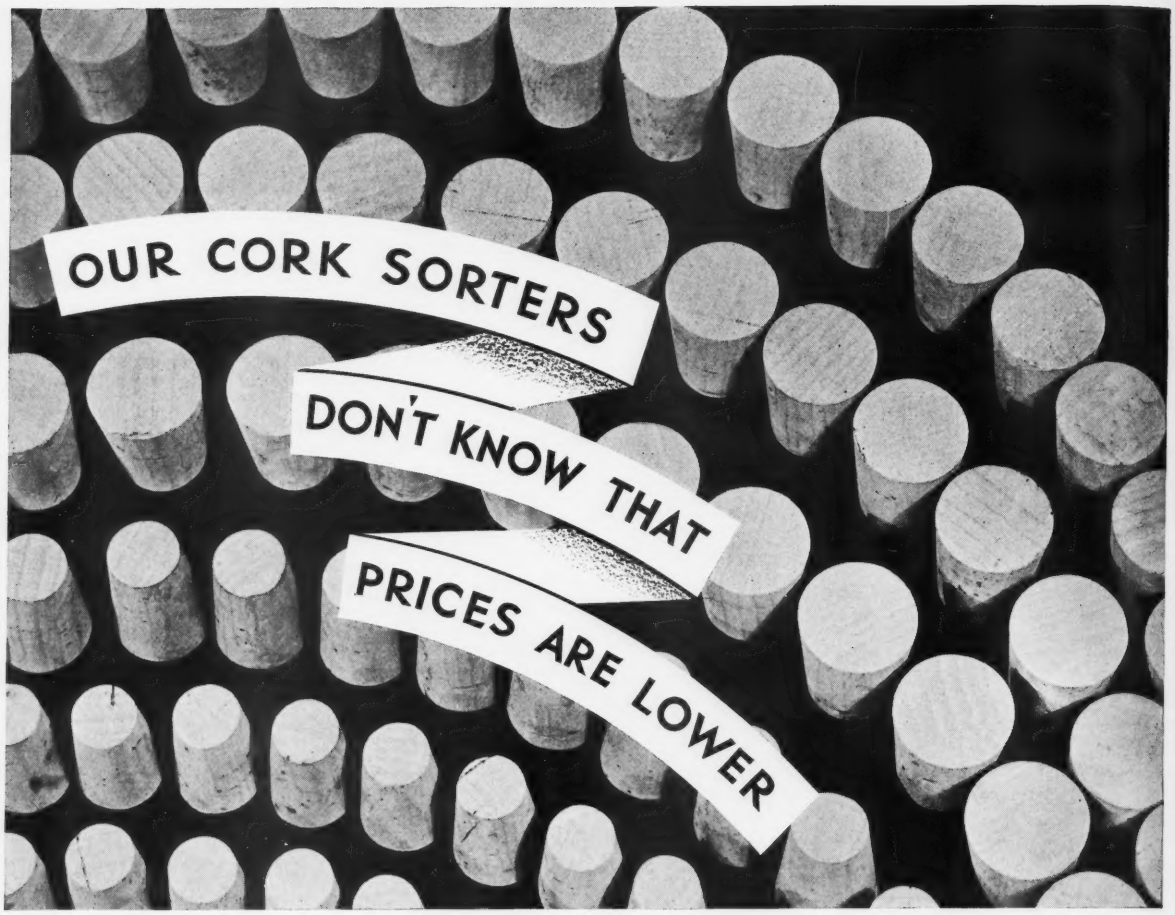


OUR HIGH STANDARDS HAVE NOT CHANGED! That's quite a statement . . . in these days of bitter price competition. Furthermore, it's true! There's no "diluting" of Armstrong's high grades with poorer corks. Armstrong's Corks are sorted and graded by skilled experts . . . sorters whose standards never change. Regardless of price reductions the grade lines they observe are exactly as before—a XXX cork is still just that. Armstrong's Corks are *always* up to grade. You get what you pay for.

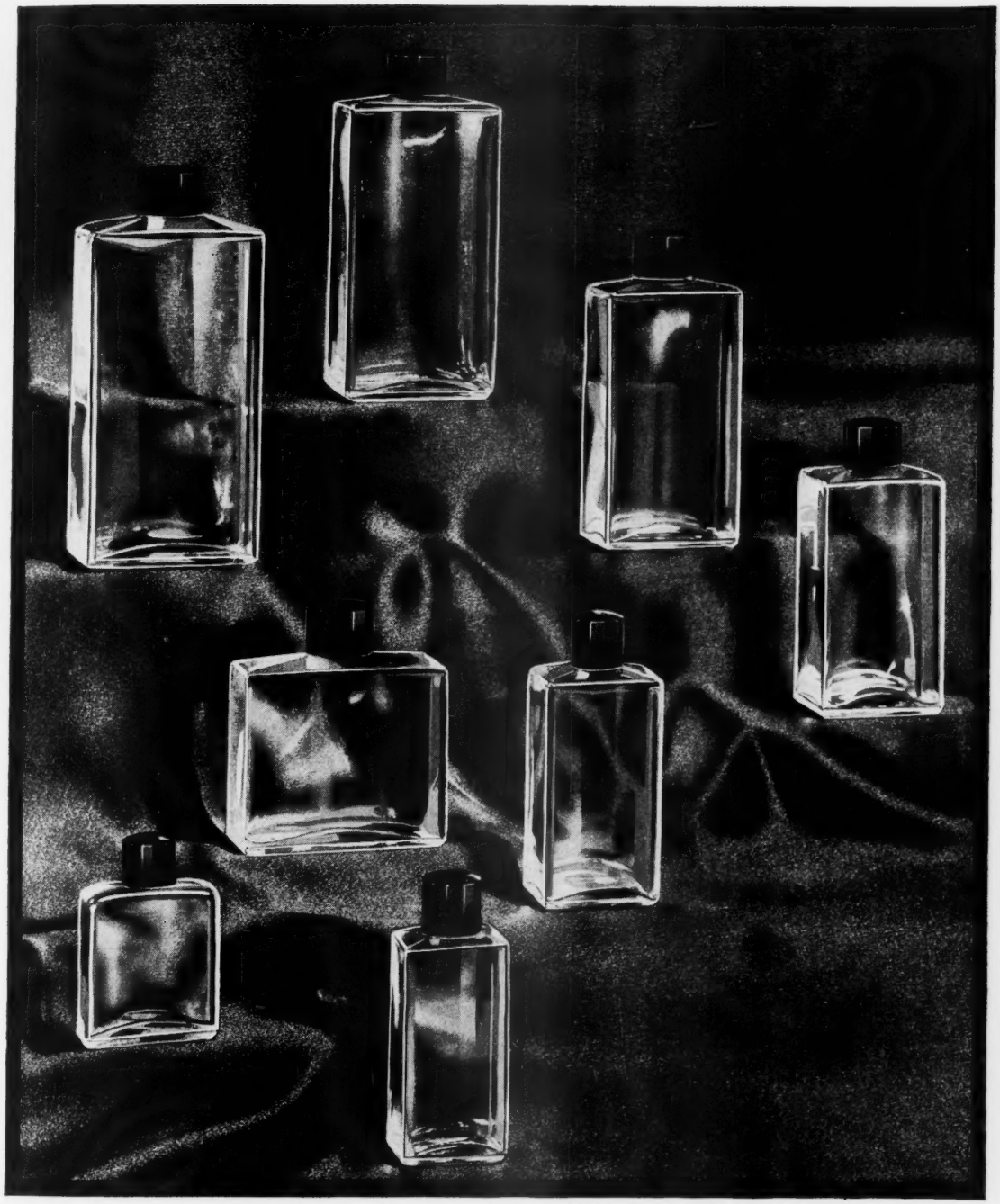
Have you seen the line? . . . tapered, straight, shell, flange, or special corks. Whatever your requirements, Armstrong will supply you with accurate corks, dependably and honestly graded.

Armstrong also offers a complete line of metal caps, molded caps, daubers, applicators, liners, etc. See listing below. If you are puzzled about how to seal your packages, we will run laboratory tests to determine which closure or liner is best for your product. The recommendations of our closure specialists are sound and wholly unbiased, for our line is complete. We have no "favorites" to push. Moreover, our Package Styling Department will gladly design your packages—closure, container, label, and carton.

This service is *free* . . . merely send us a few sample bottles or jars and the details of your problems. Address them to the Armstrong Cork & Insulation Co., Closure Division, 913 Arch St., Lancaster, Penna.

Armstrong's Corks

Armstrong offers CORKS OF ALL KINDS . . . ARTMOLD CAPS AND JAR COVERS . . . ARTMETAL CAPS . . . EMBOSSED TOP CORKS . . . DAUBERS . . . CAP LINERS METAL SCREW CAPS . . . DU PONT CEL-O-SEAL CAPS AND BANDS . . . APPLICATORS OF ALL KINDS . . . RUBBER STOPPERS . . . CROWNS . . . BUNGS



A *Family* of Smart, New Oblongs

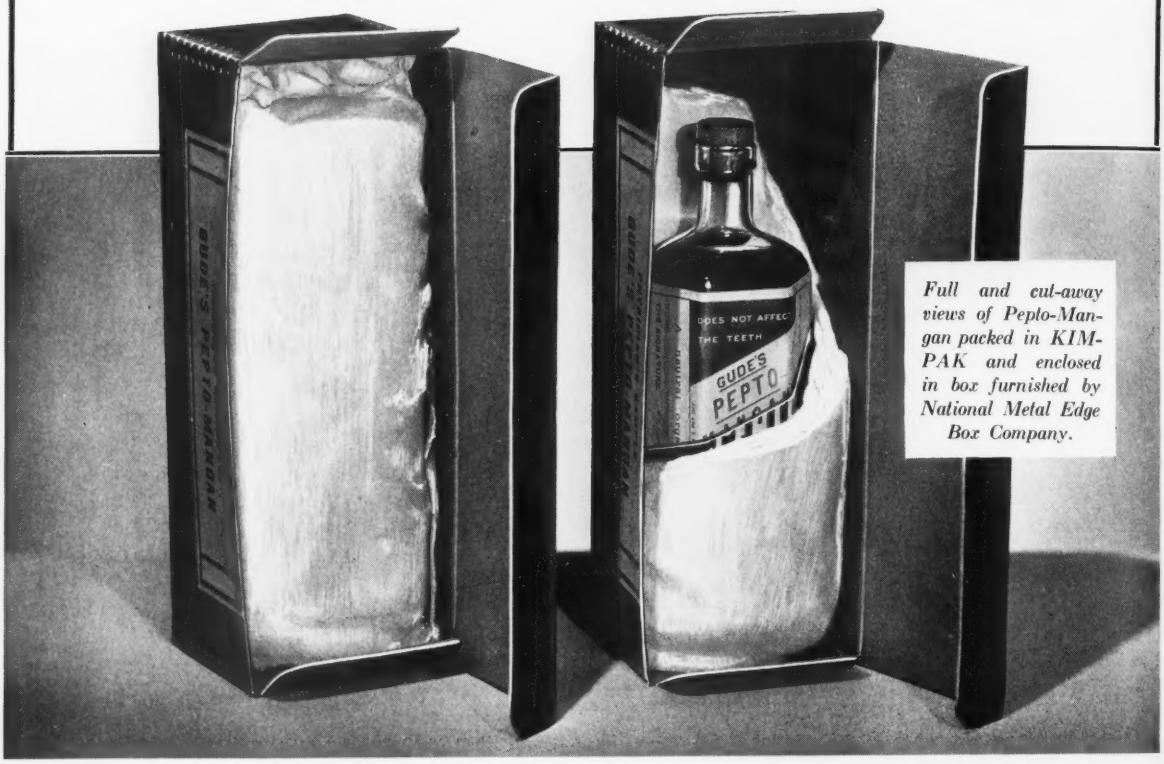
Here is a new line of extremely handsome bottles—typical of *Onlzed* design in that they combine smartness with all necessary practical features . . . Although made by machine process, they still provide the essential "hand-blown look"—at unusually low cost . . . Owens-Illinois Glass Company, Toledo, Ohio.

Onlzed
PHARMACEUTICAL AND PROPRIETARY WARE

OWENS-ILLINOIS GLASS CONTAINERS

SAVES LABOR COST—
GIVES GREATER PROTECTION

That's why KIMPAK Crepe Wadding is used for packing physicians' samples



Full and cut-away views of Pepto-Mangan packed in KIMPAK and enclosed in box furnished by National Metal Edge Box Company.

M. J. BREITENBACK COMPANY of New York is another of the hundreds of companies who have adopted KIMPAK Crepe Wadding for packing their products for protection against shipping damage. The illustration shows how the physician's sample of Pepto-Mangan is wrapped in KIMPAK and placed in a special box produced by the National Metal Edge Box Company.

KIMPAK is used to save labor cost and to assure safe delivery. Another reason why KIMPAK is used is because it absorbs 16 times its weight in moisture. This is especially useful where a number of bottles of a liquid are packed together. If one becomes broken there is less possibility of damage through leakage to other merchandise.

Investigate KIMPAK. It will pay you in many ways. Our representative, experienced in many packing problems, will gladly help solve your problem. Mail coupon.

Kimpak
REG. U.S. PAT. OFF. & FOREIGN COUNTRIES
Crepe Wadding

DCI-12

KIMBERLY-CLARK CORP., Manufacturers, Neenah, Wis.
Address nearest sales office at
8 South Michigan Ave., Chicago
122 East 42nd St., New York City
510 West Sixth St., Los Angeles, Calif.

Our product is.....

☐ Sample is going forward to you by mail.

☐ Please give your advice on how to pack and costs.

Company.....
Attention of.....
Address.....

Small sizes of the same products are sold in beauty shops which handle the Marinello line.

Promotional Packaging

THE idea is gaining ground that the package should assist not only in the promotion of itself, but of all other products to which it is related. This may be done in many ways: By means of miniature packages and by skilfully worded copy that suggests other uses for the product than the primary one, and also that which subtly suggests the use of the other products in the company's line. In this connection the *least* effective copy is that which gives recital of other products made by the company without attempting to identify them with the product in hand. And not any more effective is copy that gives a long winded spiel about the virtues of related products. You cannot make the package do the whole advertising job; you cannot put institutional, promotional and specific copy on the same package without confusion of emphasis and the consequent loss of advertising value. Package copy intended for promotional purposes should be specific yet subtle.

Bear in mind that the package in hand was purchased for a definite need and the copy should first of all be very explicit respecting the use and purposes of the product. After that the copy can be promotional. In many cases the manufacturer is so anxious to make the package do the whole advertising job that he slights the needs of the product in the package in his breathless anxiety to tell about the virtues of all his other marvelous products.

No broad generalism applies to sales promotion through the consumer unit. We think it unwise to follow some of the larger drug manufacturers who pursue an inclusive policy with respect to sales promotion through packaging. We do not think that the same sort of promotional work applies alike to cough preparations, constipation remedies, cosmetics and corn cures. We think that each class of products should be carefully studied as to market, season, price and relationship with other products. In this trade we must first draw the major distinctions, because each of the great groups has its own requirements and must be handled individually. These groups are the pure ethical specialties; the ethical proprietaries, regular proprietaries, cosmetics, household specialties, flavoring extracts and the miscellaneous specialties like baby and invalid foods. Each of these groups must again be subdivided into the classes mentioned above. Then and only then can a really effective promotional plan be initiated.

We are ignoring of course the institutional package in which the purpose of extra copy is simply to promote the name of the house without any reference to specific products. We are confining ourselves to the promotional package only.

Having segregated the line into homogeneous groups, the manufacturer is then confronted with the problem of whether to rely on promotional copy alone or to adopt a promotional package, (that is to say a sampling size) or to employ both methods.

If he places reliance on copy he will have a comparatively easy job if the entire group of products he

Small sizes of the large packages are packed in one container and sold in a group at a moderate price by Charles of the Ritz.

wishes to promote are all for the same purpose. Take cough preparations for example. Vicks family consists of Vapo-Rub, cough drops, nose drops. The Zymole line of Frederick Stearns is a little broader, consisting of trochees, cough syrup, nasal drops, vaporizing salve and inhalant. It is obvious that in cases like this one each product helps the other and the copy job simmers down to making distinctions between the preparations and indicating the order of their use.

The problem is a lot harder in the case of a cosmetic line where a group of products may be used for a home beauty treatment, yet each one individually is for a specific purpose and may be omitted or easily substituted for a competitive product. The manufacturer may have cleansing cream, toning lotion, vanishing cream, rouge, face powder and lipstick. Naturally he doesn't want the woman to use only his cleansing cream and a competitor's face powder if he can help it. So, therefore, his promotional copy will give directions for the treatment and subtly suggest the idea that the ingredients of all his products were selected to work in harmony and that the use of a competitive product may introduce an off note or destroy the effect of the related group. When each of these separate products has a distinctive name uncoupled with the name of the manufacturer, the promotional work sounds less like ballyhoo than is the case when the manufacturer's name must be reiterated constantly in order to secure identity. For instance it is more effective to suggest that after XYX cleansing cream, ABC toning lotion should be used, followed by LMN face powder, than it is to reiterate constantly that Jones cleansing cream should be followed by Jones toning lotion and so on. Some cosmetic manufacturers are following the practice of adopting subsidiary names in order to reconcile the custom of the trade, which is to refer to company names—Arden's face powder and Hudnut's face powder etc.—with the need for individual names that may stand alone. It seems that cosmetics will eventually go back to trade-marks in some form. This is needed certainly for cosmetic products which have only one specific purpose and have no relation to other products, and it would help to secure distinction for the classes of products which can be grouped into treatments. The tough job in selling cosmetics is to promote them individually and also collectively.

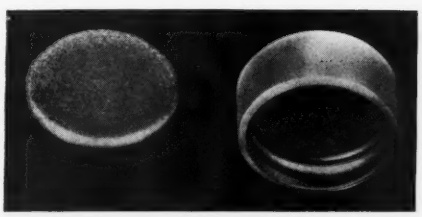
To a small extent in both branches of the trade we have the problem of promoting consumption of the product by suggesting other than indicated uses. A mouth wash may also be used as nasal spray and it may also be possible to use it as an antiseptic for skin abrasions. When a product is already identified in the public mind with a definite, specific use, promotional copy must be written with extreme caution in order not to discredit it entirely, and this is all the more important when the manufacturer lacks funds for a broad educational campaign.

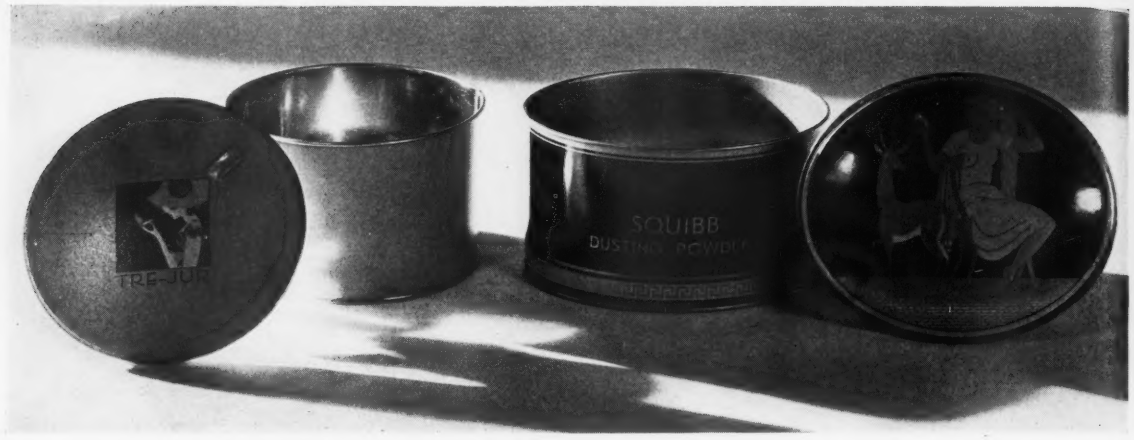
As a rule promotional copy is inept, clumsy and too inclusive, whereas it should be skilful and subtle and restricted. It is better to say a few memorable things about a limited group of related products than it is to try to say something about a lot of unrelated products. Let each product in a class promote its own class without refering to the company's other unrelated products.

In regard to promotional or family design the manufacturer has considerable leeway. He can allow the package copy of specific classes to promote all products

(*Continued on page 544*)

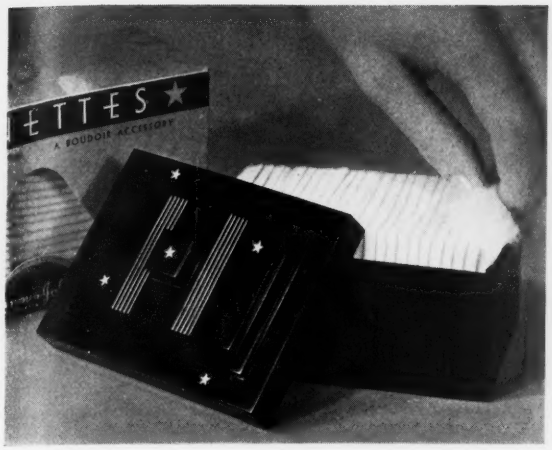
Chanel's packaging is always interesting as indicated by the two latest gift sets shown. Coty's new perfume, "LaFougeraie au Crepuscule," is complemented by a powder box of mitred, irridescent and multi-colored lid, featuring ebony and gold, and mounted on vermillion ball feet. Aluminum Seal Co. meets the competition from moulded and double shell caps by producing a hidden thread cap embodying the "Rolled-On" principle, the outer shell being forced on after the threads have been formed in the inner part by the bottle. Barbasol has packaged its new cleansing cream in a most attractive manner using a bottle of striking design. Carolina Pines comes in two types, one for the bath and one for rub-down. Each contains a pine sprig in the bottle.

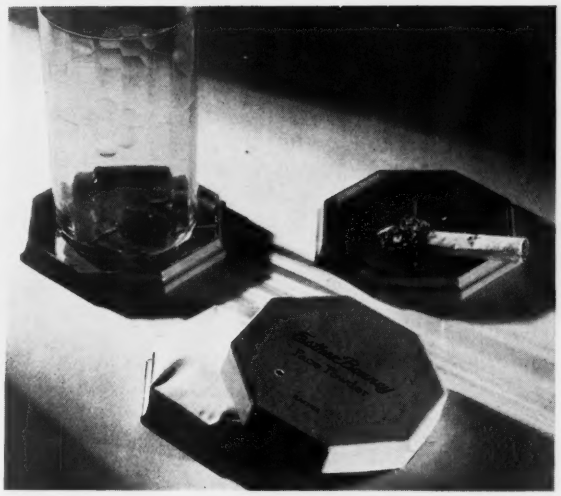




The Re-use Package

THE re-use package is important not merely because it gives the manufacturer an advantage over competition—price, quality, quantity and other factors being equal,—but because the useful container is a permanent good will builder. Even in the case of branded products that are sold by name and not by nature, the re-use container fosters sales, and when an identical re-use package is used for a large group, it also plays an important part as a promotional and as an institutional advertising factor. But it is chiefly as a good will builder that the re-use package appeals. The consumer likes to feel that she got something useful with her purchase without extra cost and human nature is always gratified at the idea of getting something for nothing. When the package can be designed so as to have a utility value with little extra cost it usually pays to adopt it.





In these days of economy on the part of every family, the re-use type of package is again coming to the front. There is no doubt that the inclusion of this selling feature at even a slight additional cost is generally well worth while.

But before adopting the re-use package good judgement must be exercised in the selection of a practical one. As one packaging authority recently pointed out each family can use only one button or sewing box, but it can absorb an unlimited quantity of ash trays, cigarette boxes, cocktail glasses, tumblers, medicine chest containers, etc.

Even in packaging large units, the "permanent package" is valuable. Christmas sets packed in well designed plastic boxes from which the decks can be removed after contents have been used and the box employed as a cigar box, a stationery box or merely a living room table ornament, have a much more fundamental appeal than a gaudy paper box lined with glittering rayon, which is thrown away as soon as the holiday season is over.

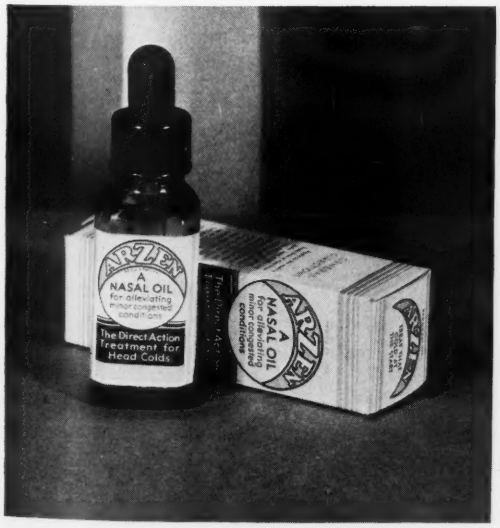
Just as much care must be devoted to consideration of the product that is to go into the re-use container. If the nature of the product is such that it will be in use for a long time before the box is emptied, obviously the re-use idea loses force. Likewise if the product is of a sticky, messy or disagreeable nature like a depilatory or a tar ointment, the re-use package would be wasted because few people would take the trouble to clean it out.

The kind of products that go best in re-use containers are those which are consumed rapidly. If the re-use box has any value at all the consumer will want several, hence it should not be restricted to one product in a line; the same one should be used for several different products. If cleansing cream is put into a cocktail glass, then follow through with the tissue cream, and the vanishing cream. If the re-use container is attractive enough it will serve as an inducement to purchase the allied products.

A common error in the design of the utility container is to plaster the manufacturer's name across the front in such a fashion that it cannot be removed. This kills the re-use idea. No housewife wants it to be obvious that her ash trays are ex-face powder boxes; nor does she want it to be known that her cocktail glasses graduate from athlete's foot ointment containers. The name must go on of course but it should be put on in the form of labels which can be washed off or else it should be holded into the bottom of the container. The housewife will not forget where she got the container and that in the final analysis is the reason for the re-use package. All things being equal as Allan Brown recently pointed out the re-use package adds a plus value to the product, which indubitably fosters sales. In the age of economy which is fast coming in—or has it been in for the past three years?—people are learning not to throw anything away that can be used for some purpose. Americans have been wasteful but that's all over now; we're becoming Europeanized.

Yardley introduces the Boudoir Size in an ebony three tier stand and a bottle with bevel edges and graceful conical glass stopper. The box is colored cream with gold lettering and decorations. Dalon products are packaged in the modern straight line manner with band labels attractively designed. Denny's Herbal Oil Blend is in the characteristic package of its sponsors—white jar decorated with a green, white and gold label. Myrurgia uses a unique blue envelope carton for its toilet water in lilac, jasmin, carnation and magnolia, which is offered as a Valentine gift. The ruling and cancelled stamps of the carton strike a new note. Good old Angostura Bitters has dropped the wax and the cork and has adopted a "Goldy" seal enamelled to the shade of the wax used for 100 years.

The "Silhouette" motif has been developed by the Owens-Illinois Glass Co. for use on bottles and jars. They are most attractive and will not rub or scratch off. Ogilvie offers a new kit of three products for the hair—Olive Oil Shampoo, Pomade, Falling Hair and Dandruff Remedy, Pocket Comb. One set is for dry hair, and the other for oily hair. New tube packed products are Strobak Katarbam, Jeldrin, and Eaz. Essential oils, flavors and raw materials are packaged for convenience in handling by Magnus, Mabee and Reynard. Free flowing products are in bottles with embossed corks which cover the lip of the bottle. Viscous products are in wide mouth bottles with screw caps. Arzen has been repackaged in an attractive emerald-green bottle that gives the package greater individuality and attractiveness.



Applicator

The drug and cosmetic field is a prime user of the applicator package. A wide variety of types have been

WHEN one constantly observes developments in packaging one is often a little depressed at the lack of scientific study devoted to packaging, not merely by local firms but also by national distributors whose stake in packaging is very great. In one case one will note a package which seems ideal in that it meets all the demands of the market. It will be easy to produce, easy to use; it will have display and promotional value. Yet despite these obvious facts a similar product put out by a competing firm or even an additional product put out by the same firm may go to the opposite end of the pole and run counter to obvious necessities. In some instances a large firm will bring out excellent packages for certain lines and grossly inept ones for other lines, as if the packaging of these different products were not under central control, and the one division of the business knew what the package should be and the other division knew nothing about scientific packaging at all.

It is not easy to single out definite movements which influence the character of the package, but occasionally one comes to the surface, every packager acknowledges it, and then goes counter to the trend in designing his own package. Take the much touted phrase "consumer convenience" for example. Every one concedes that a package should be convenient to use or apply, but actually how many new packages are scientifically designed to facilitate use? Scientific study means more than putting on a screw cap; it requires that the use of the package, dosage, application, storage, etc. shall be carefully studied and each requirement provided for. Because a mouthwash with a screw cap is easy to use is no reason for assuming that a liniment with a screw cap will likewise be easy to use.

All packaging should begin from a rational basis, and what we point out here applies just as forcibly to a package that has been on the market for forty years as it does to the one which has not yet made its debut. Just why manufacturers refuse to make established packages convenient to use is more than we can fathom, especially since most of the changes involved to make the package an instrument instead of merely a container are as a rule very slight and do not greatly alter the appearance of the package.

The approach to packaging is very logical, and if logically pursued the package will meet all packaging requirements. In creating new packages or renovating old ones, it is well to bear in mind that a package is not to be primarily an *objet d'art*. It should be as attractive as possible of course but practical considerations must come first.

The package is a production unit; it is a dispensing unit; it is lastly a display and promotional unit. This paper will treat of the package as a dispensing unit. By dispensing unit we mean much more than a package that is convenient; we mean a package that is also an instrument. Consumer convenience is ordinarily taken to include ease of opening, handling and storage. But

Packages

devised through the years. We give the latest innovations in this type of package.

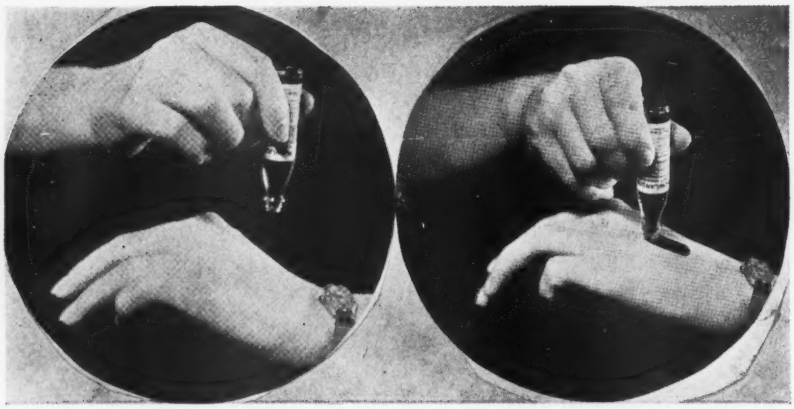
it is broader than this and must also include application and accurate dosage. In the drug branch of the trade especially, there are many products whose efficacy depends largely upon accurate dosage or correct application. There are many other products like iodine or mercurochrome which will stain the fingers. Let us examine a few packages to illustrate this point.

The antiseptics are among the oldest to provide some sort of applicator in addition to or integrally with the closure. These have taken the form of the rod applicator whose smooth surface will only hold a relatively small amount of antiseptic, a feature which controls the amount used. In the beginning the bottles were fitted with plugs to which the rods were attached. These weren't so easy to remove without spilling the bottle so the cap supplanted the plug.

Recently the George H. Nowland Company, Cincinnati, developed a bottle for direct application of antiseptics, and they are now selling this package containing tincture of iodine and Mercurochrome. The bottle, which is illustrated here has a capillary opening in the top. Over this opening a plastic cap is screwed. When the cap is removed, and the package inverted, and even shaken, the contents will not come out. However, when the top of the bottle is drawn along the skin, the contents flow onto the skin. If a more rapid discharge is required, the bottle is held inverted between the thumb and second finger, and the bottom of the bottle is tapped with the index finger. Thus this bottle apparently has many advantages over the usual type of applicator bottles. After January 1, it is stated, this package will be listed in all the Five and Ten Cent stores, and will be carried by wholesalers in drugs, notions, groceries, and dry goods. Thus a new idea in a package which gives greater consumer convenience will carry the products of this company into fields which it has never reached with its other products. And the peculiar part of this acceptance is that the company states that the only stumbling block in the sale of the package is the rediculously low prices at which the old style packages are selling. Thus this new package has also brought profit to a seller in this field.

Although numerous advances have been made in regard to closures and applicators, the usual antiseptic bottle is still inconvenient. The columnar form is still the rule. In our opinion the squat bottle is preferable; it doesn't tip over so easily. A bottle similar to Vicks drops or Higgins drawing inks seems to be better suited for this purpose. Yet, with all the advances that have been made in this field, one of the largest drug houses recently brought out an antiseptic with a flanged cork and rod applicator which doesn't even seal the product because the flange keeps the cork from seating to such a degree that by depressing the cork and releasing it a few times the antiseptic will begin to ooze out over the lip.

The small glue bottle with a rubber applicator which is illustrated herewith seems to offer an interesting possibility for antiseptic packaging. By using a screw cap with a finely perforated rubber center it



The "Direct Applicator" of the George H. Nowland Company now being used for the packaging of tincture of iodine and Mercurochrome.

should be possible to design a very neat applicator package. If the substance were highly volatile it would be possible to cover it with an auxiliary cap or a gelatine seal to prevent evaporation. This would do away with the rod and would permit direct application without removal of the top. Such a package might also help to bring liquid rouges back to life.

The next dispensing group is that for nasal preparations calling for the use of a dropper. In the old days the customer was forced to buy her own dropper; then the dropper was stuck into the carton along with the package, sometimes it was fastened to the neck of the bottle; now it is in the bottle and forms a part of the closure. Like the antiseptics these bottles too are small but they are more squat. And squattiness is a desirable quality in a bottle which must be set down uncovered while the other hand is holding the applicator.

Nasal jellies are somewhat more convenient to use because the cap of the tube is also the applicator, the two together forming an instrument. Mulford has some interesting collapsible tube and hypodermic needle combinations which together form a hypodermic syringe containing an absolutely accurate dose.

Odorono illustrates the dispensing principle very well. Being fitted with a rod and sponge the use of the product is made easy and excess is prevented.

Bauer & Black's Cotton Picker in addition to being "arty" is also a handy dispensing package. A single pull gives a pledget of cotton large enough for usual purposes.

Van Ess Scalp and Hair Treatment package is away out in front among packages which are also dispensing instruments. The closure is never removed. A pin is thrust through the rubber center piece and also through the liner. This permits the liquid to flow out through the rubber "massage fingers." The bottle does not carry a label for obvious reasons and its entire surface is knurled so that it will not slip out of a wet hand. Finally the shape of the bottle fits snugly into the palm. This package illustrates the highest packaging development for external application products.

Remola illustrates a common form of tube applicator for pile ointments in which the necessity is to get the product to the affected area.

The Squibb Oral Perborate package is a few jumps ahead of others of its kind. If you want to use it directly on the tooth brush, all that you need do is remove the center piece and the cap is a shaker top. If a solution is required the entire cap is removed and used as a measuring cup.

The use of Sprinkler tops like that for Williams Aqua Velva is becoming very popular for external application products like hair preparations, face lotions. Certainly it is much more convenient to shake a few drops on the affected area or into the palm of the hand, than it is to dump a lot into the hand or on a piece of cotton cloth. Just why the manufacturers of liniment have not applied the sprinkler top to their packages is difficult to understand in view of the fact that a few drops could be sprinkled directly on the affected area and rubbed in.

A long time ago Wyeth decided that an eye lotion should be packaged with an eye cup. In cases like this one where the eye lotion is not diluted, the application of the eye cup closure is an obvious improvement. But in spite of the number of eye lotions which has since made their appearance in both the drug and the cosmetic branches of the trade, it is only very recently that this idea was improved. A plastic closure forming an eye cup was designed for one of the plastic companies.

In regard to internal preparations, the problem is not only to facilitate opening the package and using the product, but also to control dosage. The effervescent salt makers like Wyeth and Horner for Jad Salts and Urasal have always provided a measuring cup.

On the whole the trade has a long way to go in the development of the package as a dispensing instrument. We have got to consider the practical aspects of packaging first. The way in which the product is used, applied externally or taken internally must govern the form of the package; then there are other considerations like the shape of the package, the size of the package insofar as consumer's interests are concerned; then these requirements should be carefully studied in regard to production aspects and finally when all these practical factors are known, the artist can be called in.

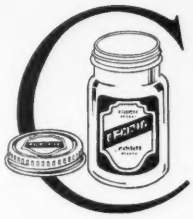
Dorothy Gray's new lipstick is designed for one-hand operation, the top decoration being merely pulled over and slid down as the stick rises. The new lip paste is contained in a miniature skyscraper case.

Fitch uses glass of an attractive blue shade for all the products of its line with the exception of the compacts and lipstick. The powder jar (above) is packaged with a transparent label enclosing the powder and making it entirely visible.

The olive oil of Magnus, Mabee & Reynard is packaged in attractively colored tins with a very effective seal. This oil, which is also packaged in a smart glass jug designed for direct table use, is sold exclusively through the drug trade.

Mary Chess, Inc., introduces new vegetable creams known as "Rhapsody in Creams"—One Star, plain or camphorated; Two Star, nourishing; Three Star, containing egg white, all packaged in ivory jars with caps to match, and transparent labels. Bath products are seven scented oils for each day of the week. There are also Rhapsody Rub, complexion milk, hand softening lotion, cleansing lotion, astringent, liquid face powder, toilet water. Baby-San has been attractively packaged in blue, white and yellow with a blue enamelled cap to match. Anchor Cap and Closure Corp. is offering an improved C.T.B. cap for which many advantages are claimed.

COMPLETE CLOSURE SERVICE



CONSIDER a single closure in its relation to your product. Upon it depends to a large extent your reputation and good will. Merely closing the container is not its only duty. It must seal and protect the contents under all conditions — must be easy to apply and easy to remove. It should harmonize with your package and add to its sales appeal.

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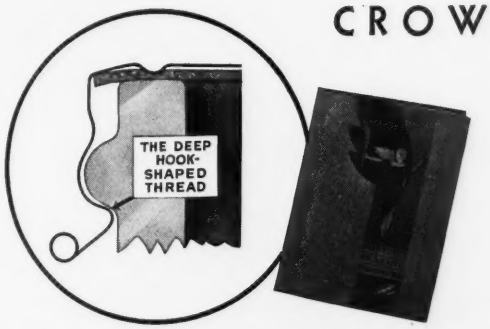

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It's all in the **CAP**

Management Forum

By Francis Chilson
Production Engineer

New Equipment

Nearly fifty years ago John W. Ayers built the first tablet filling and counting machine in this country for filling Ripans Tablets. The business is still operated by descendants of the inventor and founder of the company, Albert M. Ayers, his son and Milton I. Ayers, his grandson. And the first machine is still in existence and in workable condition although it has been retired from active service. In the intervening years John W. Ayers & Son have marketed a number of different models, the most widely known of which is the vibrating filler for uncoated and coated tablets and also capsules.

Recently Ayers perfected their new Direct Universal Type. This machine will fill coated tablets of any size or shape into any shaped bottles at speeds ranging from forty bottles a minute up, regardless of the number contained in each bottle. It operates in the following manner:—

The tablets, capsules or pills are dumped into the hopper from which they pass into the loading box at the base. Two plates pass beneath this box the upper one being perforated. The tablets in the loading box fall into the perforations in the upper plate; both plates come forward, the excess load being swept off by means of a brush within the loading box, until they reach a point above the discharge hoppers, whence the bottom plate draws back and the tablets fall through the upper plate into the hoppers. The machine contains an adjustable gibb to compensate for various thicknesses of the plates which are made according to the thicknesses of the tablets. The machine is operated by a foot treadle. If required a raising table is provided so that six or more bottles can be filled simultaneously. The count is observable at all times and the number of tablets wanted in each container can be regulated by simply pasting a piece of gummed tape over the unnecessary holes in the counting plate. The machine is guaranteed to fill accurately without scratching, chipping or marring any of the tablets in any way.

The vibrating model is being suggested for uncoated tablets, lozenges and the like which require to be packed or stacked into vials, vest pocket tins, slide boxes, etc. The Direct Universal Model is recommended for coated or uncoated tablets that are to be filled into bottles.

Germ Proof Filters

Some time ago we had a note in this department about the discovery of the sterilizing properties of silver. At that time we suggested that it might be possible to use it as a filtering medium. Having thought about it further we wonder if the so-called germ proof disc filters do not contain pads made of asbestos mixed with some of the silver compounds? Heretofore, these filters have been sold on the theory that the pads are close textured enough to filter out germs. The chances are that the pads contain a sterilizing medium. Silver compounds would be effective even at high speed if given sufficient area. This is an interesting speculation. At any rate the only filters fine enough to filter germs are made of a special porcelain in laboratory sizes.

Cleaning Quince Seed

Quince seed, as everyone knows, contains a considerable percentage of impurities in the form of bark, clay and sand. These impurities have no mucilaginous content and tend to cause turbidity and discoloration in the extract, which by any means is not easy to clarify. Because of the peculiar formation of the seed clusters and the amount of loose mucilage particles obtaining in the run of the crop it has not proved practical heretofore for importers to clean the seed thoroughly. This situation obtains because the average purchasing agent is penny wise and pound foolish. He will pay a dollar a pound for the run of the crop, impurities and all; but if he were offered a seed absolutely free of foreign matter at a dollar fifty or two dollars he would throw up his hands in horror and kick the seed salesman out of the office even though the purified seed had a mucilage content that more than compensated for the price differential and the extract clear. It has been our opinion for some time that quince seed can and should be cleaned before use. If the manufacturer will not stand the price differential that the process would necessarily entail, he should do it himself—assuming of course that he uses enough quince seed to warrant the installation of the necessary equipment.

Without doubt the cleaning of quince seed offers one of the most difficult production problems in the world. Otherwise the seed would not be offered, impurities and all. We wonder if anyone has ever tried a gravity mill on it? We don't know whether it would work or not, but it offers a likely solution and we will work on the problem if anyone is interested.

The gravity mill works in this fashion: The seed is fed on to a vibrating canvas deck which is slightly inclined toward the discharge spouts. An evenly distributed blast of air passes upward through the entire surface of the deck and blows the load up about ten inches or a foot. Inevitably the several elements of which the seed load is composed tend to arrange themselves in stratas according to specific

Tablet counting machine in operation in McKesson's plant

Merry Christmas and a Happy New Year
COLLAPSIBLE TUBES
ART TUBE COMPANY
IRVINGTON, NEW JERSEY
SPRINKLER TOPS

gravity. The vibration of the deck tends to cause these stratas to flow toward the outlets, which are so arranged that the several stratas are discharged at different ports. In theory it seems to us that the seed, clusters, the free mucilage, the sand, the bark and the clay could in this fashion be easily separated.

At any rate we tried the mill on psyllium seed and it worked like a charm in regard to all impurities but the shell. This being of the same or almost the same specific gravity as the seed, it naturally came off with the seed.

Air Filtration

Many of you who read this are located in urban areas where dust drifts in, especially in summer when the factory windows are open, and settles on the cream. And those of you who are not located in cities have probably experienced the same trouble from powder drifting in from powder mixing or processing rooms located nearby. And all of you regardless of where you are located have experienced the difficulty of cooling creams and ointments in hot, humid weather. As you know comparatively few creams or emulsified ointments will endure quick refrigeration or chilling.

The problem of cooling the air has seemed difficult without a conditioning plant, which is too expensive for the smaller operator. And invariably the idea of air filtration is associated in the average production man's mind with an expensive hook up. Well, you can filter air and cool it too and even control its humidity for a song. And here's how:

If you are running your creams out on a conveyor or a cooling table, cover the outfit with a galvanized iron hood, leaving it open at both ends. Put a small air filter (which only costs a few cents) across one end and put a suction fan behind it. This will draw the air through the filter and blow it down the belt over the creams and out at the lower end. In summer the filtered air can be sucked through an ice or a dry ice chamber, which will cool and in this way the creams can be cooled without danger. The filters we have in mind cost about six dollars frame and all, and the blower outfit that goes along with it costs only seventy-five or a hundred dollars. The filter itself being a special paper cannot be cleaned but since it costs only a few cents it can be thrown away. We have seen these units in operation and we know that they work. They are being used at the Rockerfeller Institute, for keeping the air of the biological laboratories free from dirt and bacteria; they are being used at the Smithsonian, and other institutions and universities. Mead Johnson is using them but we do not know in what type of service. We shall be glad to give the name of the makers on request.

Silver Equipment

The fall in silver prices has increased the industrial use of silver according to figures published by the Department of Commerce. Silver is invaluable in the construction of equipment subject to incessant and intermittent strain. It can withstand vibration and sudden shocks. It is highly resistant to wear and tear and to corrosion. Silver solder is much stronger than other kinds and in the long run cheaper. Silver has been used for acetic acid piping and tanks and quite extensively in the food trades for copper kettle linings.

Dry Rouge and Make Up

We have received an interesting note from Sterling Manufacturing Company, Belleville, N. J. in regard to certain new methods for manufacturing dry rouge, lipstick and make up specialties. Equipment is being purchased for a new process rouge and the company promises to give this department a story on the new set up as soon as it is in operation on a large scale.

Chromium Lined Copperware

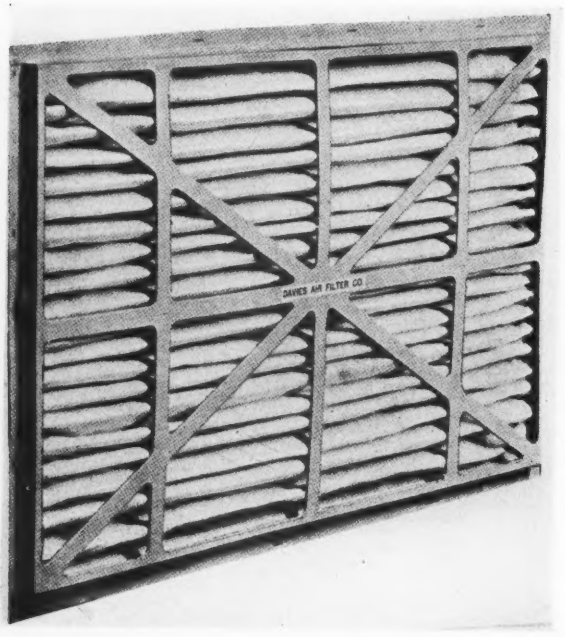
Chromium lined, steam-jacketed copper kettles are now available according to an announcement made to this department. The use of such linings makes the copper kettle useful for all types of compounding regardless of whether acid or alkaline in character. Unlike block tin linings the chromium is durable and wear proof. It never flakes off and it will stand denting without cracking or chipping. The manufacturer claims that the cost of such tanks is but comparatively little more than block tin.

Nail Jelly

So many innovations are being made in manicure preparations that we would like to suggest a thought along these lines. Why not a nail polishing cream or a jelly, containing pearl essence?

The Superintendent

In the current issue of the Karl Kiefer Co.'s house organ there is an interesting article on scheduling production for small runs. Ernie Finch, the genial G. M. of the Kiefer company and himself a "superintendent" of no mean ability, points out that many production men have not

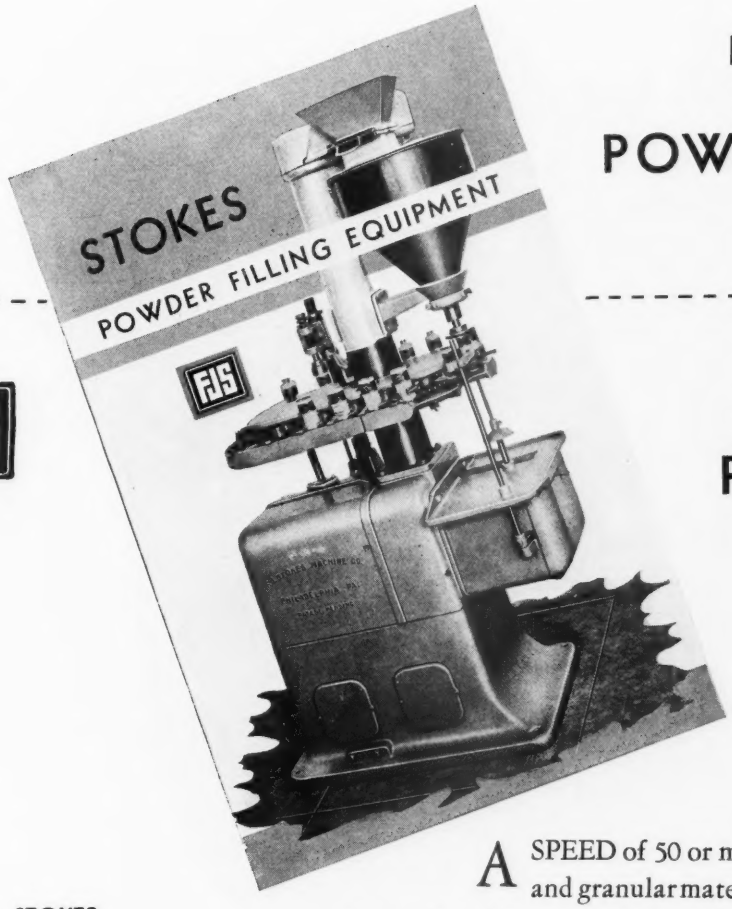


At left:—An Air Filter.

At right:—Flexible hand capper (without chuck) mentioned last month.

THIS BOOKLET *describes*

The
FASTEST
SINGLE-AUGER
POWDER FILLER
on the
MARKET
the
NEW
STOKES
POWDER
FILLER
15-C



FJS

A SPEED of 50 or more per minute, on powders and granular materials, both possible and practical. Yet this same model—with container carrier lowered—can be used as a semi-automatic machine for short runs.

The semi-automatic model 15-B on the other hand, is so designed that it is readily convertible—as the growing needs of its user require greater capacity—into the full automatic machine, 15-C. The booklet tells how this machine was built to answer the need of the hour, *production economy*. Whether your production is now large or small, this machine, with its elastic capacity, is "the buy" for you. Many mechanical advantages also.

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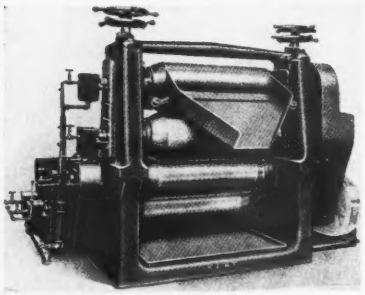
learned to adjust themselves to low volume, low cost production. They had their schooling back in the days when production was large and on a demand basis and are geared up acordingly. Now they have got to learn how to produce smaller batches just as rapidly and at even lower cost and some of them are sweating blood doing it.

New Equipment

One of the oldest builders of milling rolls in the country has recently introduced a five roll mill illustrated herewith for milling large batches of tooth paste, shaving cream, ointments, colors, etc. An interesting departure in the construction of this mill is that the rolls may be adjusted so that the paste, entering at the top is given a progressively finer milling as it passes toward the discharge apron. The manufacturer has not yet informed this department as to whether he will utilize the five roll principle on a smaller mill. This would seem to depend on the attitude of the trade. What do you think? Big or small the machine strikes us as being a swell job.



A hand filler designed primarily for collapsible tubes has been placed on the market recently. An operator can fill twenty to twenty-five tubes or jars per minute depending upon capacity. Provision is made for the addition of a small motor which doubles capacity. The machine is altogether a neat little job and can be used by the small manufacturer for varied batches and the large one for small sized batches.

A bottle ink has been placed on the market within the month. With this ink you can write your laboratory control codes or even make a design on your glassware and when the ink is dry you can't rub it off, and you'll have a hell of a time getting it off with strong chemicals. It stays on almost as well as if it were baked on. We haven't quantity prices and can't say whether it could be used for sprayed on color jobs. But it can be had in stamp pads which will permit rapid coding of bottles. Perhaps one of the labeling machine companies might get up a rigging so that regular labels and inked on code numbers could be achieved simultaneously.

Th. Goldschmidt Corp., manufacturers of Protegin and other absorption bases and emulsifying agents, have placed on the market a hand emulsifier for laboratory use. Unique in design and construction this machine enables the chemist to make a test emulsion very quickly without resorting to a colloid mill. One of its most interesting features is that emulsification takes place under vacuum. Detailed information will be supplied by the maker. Every lab should have one of these machines.

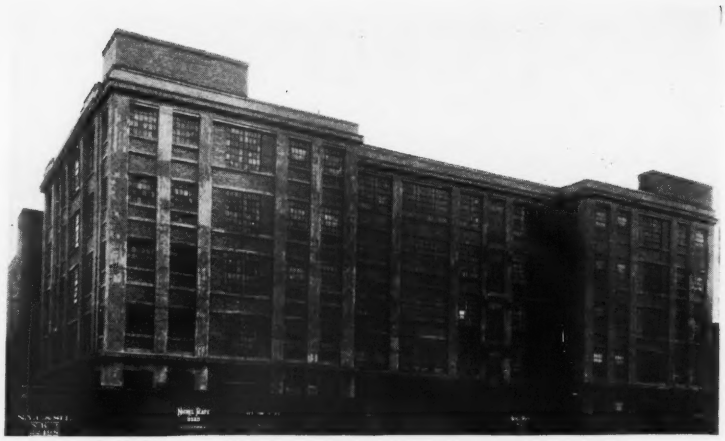
Abbe Engineering Co. is going to spring a surprise on us one of these days. They are working on a new piece of machinery that may make us eat what we said a while back about certain types of equipment. This does what we said equipment of its type couldn't do. Times do change.

Abbe is the firm that puts out that turbine sifter that aroused our enthusiasm because of the way it handles difficult-to-sift materials.

Among other things which Abbe announces for the inventory season are:

The Lenart mixer for emulsions, liquids and pastes. It combines both a mixing and a milling action. Within the tank there is a mixing hopper at the bottom of which there is a revolving disc. This disc developes a powerful centrifugal force and forces the material through a narrow interstice between the disc and the bottom of the mixing hopper somewhat after the fashion of an ointment mill. The material is then impelled upward between the inner wall of the tank and the outer wall of the mixing hopper. This upward circulating wave is chopped up by the raised edges of the slits in the mixing hopper, causing the wave to pass through the slits and back down upon the bottom disc. In this way the batch is repeatedly subdivided and broken up. Abbe tells me that the machine requires little power, takes little space, is easy to clean and is comparatively inexpensive. What more do you want?

Beach-Russ Company has added a Micron-Vacuum pump to its extensive line of pumps. This one is a neat little outfit and is used, among many other laboratory uses for filling ampules.



New Strong Cobb plant

Strong Cobb Expands

In this year of despair it is stimulating to hear that one of our leading companies is expanding unafraid. Strong Cobb & Co. has moved to a new location which gives them more facilities for providing for a steadily expanding business. We extend congratulations to S. C. and to R. W. Hompe, factory manager, whose contributions to this department have always been constructive and interesting. Later on Mr. Hompe will tell us the layout and equipping of the new plant. Now R. W. gives some preliminaries:—

"Next year, 1933, Strong Cobb & Co. Inc., will be 100 years old and the first of a series of celebrations is a move into new quarters.

"The new building is of concrete and glass in steel frame. It is five floors and basement and working space is a perfect rectangle with all elevators, stair wells, toilets and dressing rooms set in twin towers, projecting from one side of the building at either end.

"Floors are of wood laid on 2″ plank, which in turn is laid on concrete and columns are of concrete, circular in shape and mushroom at top. Floor loads are graduated from 300 lb. up to 500 lb. per square foot. Steel slots are imbedded in the concrete in the ceiling of every floor a few feet apart so that shafting and machinery can be hung from the ceiling from bolts fastened in these slots without having to drill into the concrete every time a piece of machinery is placed.

"Railroad siding is located parallel to one side of the building—the side on which the towers are located. The shipping platform is located between the two towers with one end enclosed and equipped for shipping and receiving by truck. The balance of the platform is available for loading and unloading cars.

"Ceiling, side walls and columns are white down to the dado, which are dark green. Steel window sash is painted aluminum.

CUTICURA QUALITY---
IN NATIONAL TUBES

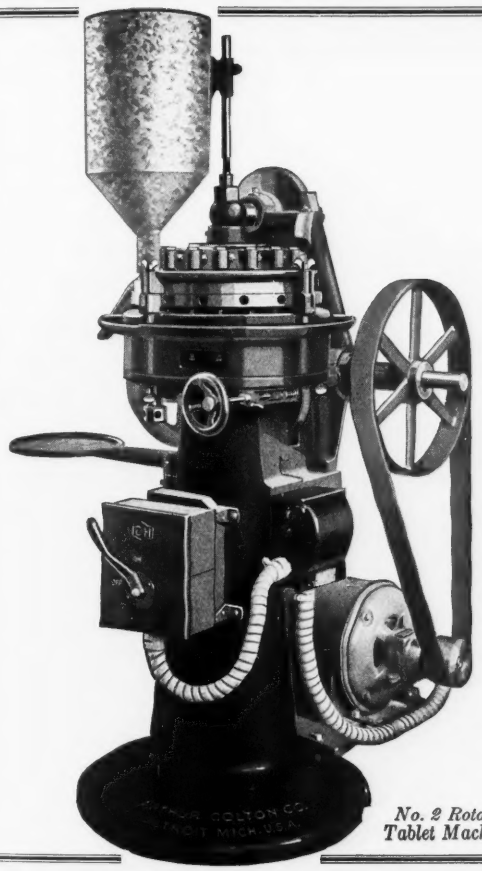
"Cuticura—a name synonymous with quality the world over—presents its shaving cream in tubes of three sizes, including the new Guest Size. All are uniform in appearance—Deep Orange with Black facings, stepped up by a top coat of brilliant transparency and real protection . . . Truly, tubes that proclaim quality in definite tangible terms . . ."

These three Cuticura tubes are further evidence of the inherent character of National tubes. . . Given a product of merit, National Tubes will tell its story in "definite, tangible terms" . . . and after all, that's more than half the battle in a merchandising sense. Remember too—that this tube quality costs you no more.

Further information and prices upon request.

NEW YORK OFFICE
331 Madison Avenue
Phone: MUrray Hill 2-1626

● **NATIONAL COLLAPSIBLE TUBE COMPANY**
PROVIDENCE, RHODE ISLAND



No. 2 Rotary Tablet Machine

New and Improved!

We have no yearly models—but improvements and refinements are being constantly added to Colton machines.

There are over five hundred Colton Rotaries in use.

Superior design, sturdy construction and ease in operation have made this possible.

The No. 2 Rotary Tablet Machine has such desirable features as *positive pressure*, eliminating varying thicknesses of tablets; *hardened steel gear drive*, eliminating frequent replacement of worms used on other makes, and *sliding upper punch holders*, to hold the punches rigidly, enabling the manufacture of special shaped tablets most satisfactorily.

Write for Catalogs.

ARTHUR COLTON COMPANY
2620 East Jefferson Ave.
Detroit, Michigan

Promotional Packages

(*Continued from page 526*)

in each class and rely on institutional or family design to bind all the classes together. Or else he can set up a distinctive class both as to copy and as to design as Frederick Stearns has done with the Zymole line.

In regard to the small, promotional package Petrolagar and Hoffman La Roche have turned a neat trick in putting out hospital dosage packages that are exact replicas of their retail packages. The individual dose package is brought to the patient's bedside or dispensed by the doctor and because it is a replica of the big package, the user can never forget it, and the connection is further cemented by the fact that the small package tells the woman that the big package is exactly like the small one.

Such an idea might be extended to the packaging of those cosmetics which are dispensed in beauty shop sizes as well as in retail sizes. At present there is no relation between the packages for beauty shop use and those sold at retail. A beauty or barber shop can advertise that it uses a certain line of products and actually use competitive products without any one being the wiser. A beauty shop treatment package containing all the essential products for a complete treatment in miniature of the regular retail packages should be effective promotion especially if what remains of the several products after the treatment is wrapped up and given to the patron for home use. At all events it would force the operator to use all of the products in a given line instead of selecting one of one line and one of another.

Another effective way of promoting the use of specific products through the use of miniature packages is to distribute them through physicians and especially through the various units of the Visiting Nurses Association as well as the various Childrens societies and schools. This is apropos of products like cod-liver oil which is consumed in vast quantities in winter. It should be just as true of hand lotion. Heretofore, we have sold hand lotion to women who rarely have chapped hands, whereas we should sell hand lotion for children who frequently have chapped hands in winter. The problem of distributing promotional size packages is to distribute it through agencies which will pass them on to consumers in their original form, and not through regular agencies which are likely to divert them for their own purposes or throw them out altogether.

At all events the sample or promotional package should be an exact replica of the big one. A sample in an envelope which relates the purpose of the product and describes the regular package is not half as effective as the miniature package. Edrolax for instance recently conducted a sampling campaign with effective miniature packages. The promotional or sampling package is a very effective but expensive way to advertise, but when it is done it should do the job thoroughly and make no half way compromises.

Wet Milling

(*Continued from page 510*)

We suppose that more of these are used in the trade than all of the other forms combined. They are favorites for tooth paste, ointments and the like.

The roller mill or milling rolls as they are often called consist of three, four or five chilled and ground steel rolls driven horizontally. They may also be had in tandem sets of six rolls. Like the other mills they are used in the trade for all types of milling, tooth paste, shaving cream, ointments and especially for color work—color milling for lipstick and make up products.

The colloid mill has been so often described that it needs no further attention. Like the others it has been used in the trade for all kinds of milling especially in cases where the product also requires homogenizing.

Here then, we have the machines. Which one shall we pick out for a given job? Lacking detailed studies and unable to quote authorities the writer can only indicate personal preferences.

In the first place experience indicates that most of the products of the trade may be classed as non-abrasive in character. This eliminates for most cases the question of the effect of abrasiveness on the grinding surfaces of the mill. In no case can you use a set of milling rolls for a product containing a hard abrasive substance. To do so would pit the rolls and so destroy the efficiency of the mill. This also obtains for the iron mill and the colloid mill. Abrasive materials would certainly affect the smooth stone mills much less and will not injure a Buhr stone at all.

If the product does not require fine milling and is being milled for the purpose of reducing agglomerates and if it happens to be of small poundage, say five or six hundred pounds a day, we'd be inclined to the iron mill. We don't think that the iron mill does as fine work as the other types, but we frankly confess that this is an opinion and we shall gladly acknowledge error if we prove to be wrong. As we stated, iron mills have and will continue to be widely used in the milling of ointments and tooth paste, and those who favor them even go to the extent of using several in order to obtain output. In cases where fine milling is required some builders set these mills up double in tandem fashion so that the upper mill discharges into the lower.

As between the stone mills and the roller mills there is only a small difference as far as poundage is concerned. When production runs over a thousand pounds a day one or the other will turn it out easily and it becomes a question of advantages and disadvantages in regard to set up and operation. The advantages of the stone mill are that output is great, the product is well homogenized and impalpably milled and if it contains volatile medicaments, essential oils or any light sensitive materials, the mill can easily be enclosed. The disadvantages are that the stone mills are hard to clean and some of the material may dry

(*Continued on page 552*)

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WEATHERPROOF

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Riegeline is a newly developed product, combining the economy of ordinary glassine with the transparency of more expensive wraps. It twists well, works rapidly on any wrapping machine, requires no special adhesive, and will not expand in wet weather or shrink to the splitting stage in dry weather.

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BOND TUBES AND CROWNS
CORK-TEX SPECIALTIES

Scalp Preparations

(*Continued from page 516*)

Preparations for Baldness

OINTMENT

Pilocarpine hydrochloride	20 ozs.
Precipitated sulphur	120 "
Absorption base (Lanolin type)	60 "
Balsam of Peru	60 "
Resorcinol monoacetate	30 "
Petrolatum	900 "
Water	60 "

Perfume to suit

Procedure: Dissolve the pilocarpine in water and mix with absorption base. Mill the sulphur and the monoacetate with part of the petrolatum. Melt the rest and stir in the absorption base and add finally the sulphur mass. Mix thoroughly.

LOTION

Mercuric chloride	1 ozs.
Salicylic acid	5 "
Chloral hydrate	5 "
Glycerin	25 "
Acetone	10 "
Alcohol	200 "
Water	825 "

Perfume to suit

Procedure: Take part of the petrolatum, add the salicylic, the phenol and the camphor and mill thoroughly. Melt the lanolin, the rest of the petrolatum and the beeswax, stir in the milled base and add the oil of eucalyptus.

LOTION

Oxyquinoline sulphate	1 ozs.
Tincture of fish berries	10 "
Glycerin	30 "
Tincture benzoin	8 "
Witch Hazel	150 "
Water	10 "

Perfume to suit

Procedure: Dissolve the sulphate in water. Mix the fish berries with the glycerin, add the benzoin and the witch hazel. Then add the sulphate solution.

Other chemicals used in the manufacture of eczema preparations are: calomel, iodoform, oil of wormwood, silver protein, sodium iodide, potassium iodide, pine tar, bismuth resorcinate, mercuric salicylate, bismuth subnitrate, red mercuric iodide, basic aluminum acetate, benzocaine, bismuth oxyquinolate, and various absorption bases.

Psoriasis Preparations

OINTMENT

Chrysarobin	3 ozs.
Salicylic acid	1 "
Rectified oil of Pine tar	10 "
Soft Soap	15 "
Petrolatum	28 ozs.
Absorption base	5 "

Perfume to suit

Procedure: Mill the salicylic and the chrysarobin with a part of the petrolatum. Melt the rest of the petrolatum and the absorption base, add the soap, the pine tar and the chrysarobin-salicylic mass and mix thoroughly.

LOTION

Oil of Mace	10 ozs.
Olive Oil	10 "
Liquid Ammonia	15 "
Essence of Rosemary	5 "
Rose Water	50 "
Lecithin	½ "
Chloroform	3 "

Perfume to suit

Procedure: Add the olive oil to the mace and mix thoroughly, add the ammonia water and keep stirring until a saponaceous mass is evolved. Dissolve the lecithin in the chloroform. Mix the rosemary with the rose water and add the lecithin solution. Then add this to the first mixture very slowly; keep up a very slow mixing for about a hour afterward.

Other chemicals used in the making of psoriasis products are: lanolin, sesame oil, peanut oil, benzoic acid, bismuth subgallate, linseed oil, birch tar, chaulmoogra oil, neats foot, croton, cod-liver, and soya bean oils.

Procedure: Dissolve mercuric in part of water, chloral hydrate in the rest and mix the two solutions together. Dissolve the salicylic in alcohol, add glycerin, acetone, mix perfume and filter.

Other chemicals used in making alopecia preparations include: quinine hydrochloride, spirit of rosemary, ammonium chloride, tincture of nux vomica, cantharides, capsicum, calomel, lead acetate, quinine sulphate, glacial acetic acid, neats foot oil, lignol, soya bean oil, castor oil, colloidal silver, birch tar oil, etc.

Dandruff Preparations

OINTMENT

Lanolin	12 ozs.
Water	15 "
Silver Lactate	3 "
Tincture Fish Berries	5 "
Sulphur Iodide	3 "
Balsam of Peru	15 "
Cocoa Butter	20 "
Petrolatum	60 "
Glycerin	10 "

Perfume to suit

Procedure: Dissolve the silver lactate in water and the sulphur iodide in glycerin. Melt the petrolatum, the lanolin and the cocoa butter, stir in the silver lactate solution, add the sulphur iodide solution and finally the balsam of Peru and the fish berries.

PACK-URGES*

by "Duff" Gordon

A TIMELY TUBE IDEA:

With sinus infections, "Hay Fever" and allied nasal afflictions so prevalent we have long advocated a special "vest pocket" size tube of Ephedrin Jelly for the convenience of those compelled to go about their work, despite their ills . . . And now a manufacturer of imagination adopts the idea in "Katarbam" a new product which comes in regular sized tubes for home and office use . . . To meet this demand they have created a SPECIAL SIZE (5-8" x 2½") to fit the purse or vest pocket, affording the user a generous supply of jelly for immediate needs in an unobtrusive little tube . . . (Like many other salable tube ideas, these tubes were supplied by us. See us before you buy tubes.)

• • •

PERSONAL PREFERENCES:

Miss (Peck & Sterba) Soames' unfailing courtesy . . . Those stunning new tube designs by Elliott (El-Nor Labs.) Meyer . . . Miss Myra Conklin's excellent articles on Cosmetic Packaging . . .

• • •

LET THE TUBE BUILD GOODWILL:

This is an intimate sketch of John L. S. Consumer who buys Tooth Paste and other preparations in tubes . . . Like many others John spends countless hours hunting tube caps and incidentally, wondering when his favorite brand is going to adopt a sane Cap that won't get lost. His initials L. S. mean "Long Suffering" but one of these days John will scrap the tubes that aren't equipped with the Captive Cap or the Valvo "Capless" feature, both obtainable in National Tubes. We are National's exclusive Metropolitan representative and a call will bring you all the details of our complete tube service.

• • •

ANOTHER OUTSTANDING BOX:

"Fe-Gene"—a Feminine Hygiene product which is featured by that ultra-smart Park Avenue Pharmacy of H. C. Schmidt and other leading druggists is described in a page advertisement in Drug Topics as "The most attractive Feminine Hygiene package ever designed." It may interest you to know that the package cost was more moderate than the average and that we made up that box . . . Our specialty is moderately priced packages of outstanding appearance and taste.

"Pack-Urges" is issued occasionally in the interests of better packages. If you wish to receive it regularly it will be sent free upon request. Address: ***H. R. M. Gordon*** *—A Complete Packaging Service—****331 Madison Ave.*** *(Phone Murray Hill 2-1626)* ***New York.***

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Over 17 years of experience in the manufacture of private brand cosmetics guarantees you Lipsticks which are as you want them. We can also furnish you with Bulk Powders, Paste Rouge, Non-Smarting Mascara, Eyebrow Pencils, and Eye Shadow, all shades. In bulk or assembled at a considerable saving. For a pleasant surprise, get our samples and prices.

We make private brand cosmetics only.

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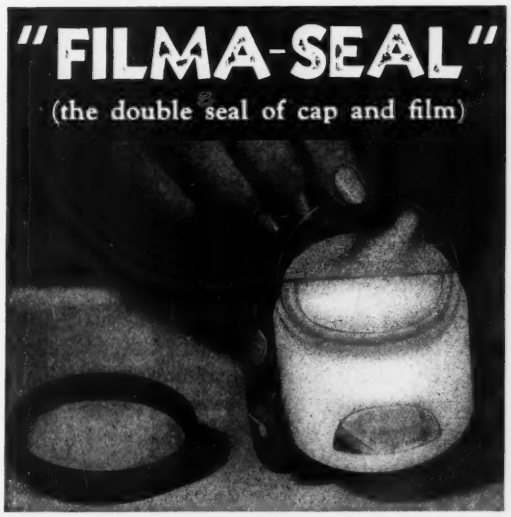
BELLEVILLE, N. J.

"FILMA-SEAL"

(the double seal of cap and film)



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PREVENTS

EVAPORATION — LEAKAGE — TAMPERING

Send us a few of your packages to "FILMA-SEAL" and we will prove its advantages to you.

FERDINAND GUTMANN & CO.
Brooklyn, New York

Trade Marks Reg. Pats. Pending

LOTION FOR DRY DANDRUFF

Tannic Acid	10 ozs.
Chloral hydrate	16 "
Witch hazel	200 "
Castor oil	5 "
Soya bean oil	50 "
Alcohol	800 "

Perfume to suit

Procedure: Dissolve the tannic and the chloral in the alcohol, add the witch hazel and the oils and mix thoroughly.

LOTION FOR OILY DANDRUFF

Zinc Sulphate	2 ozs.
Phenol	1 "
Menthol	2 "
Glycerin	50 "
Water	120 "
Formalin	2 "
Alcohol	40 "

Perfume to suit

Procedure: Dissolve the zinc sulphate in some of the water. Dissolve the phenol and the menthol in the alcohol, add the glycerin, the formalin and the remainder of the water. Mix thoroughly and filter.

Other chemicals used in the manufacture of dandruff preparations include: crude oil, precipitated sulphur, oil of tar rectified, oil of camphor white, turkey red oil, oil of thyme, soya bean oil, thuja, cresol, lignol, sulphonated bitumen, lanolin, betanapthol, croton oil, bismuth subcarbonate, mercuric salicylate, arsenic iodide.

Preparations for Scabies

OINTMENT

Potassium sulphide	50 ozs.
Water	250 "
Petrolatum	250 "
Lanolin	250 "
Titanium dioxide	5 "
Mineral oil	200 "

Perfume to suit

Procedure: Dissolve the potassium in the water. Take part of the petrolatum and mill in the titanium. Melt the rest of the petrolatum, the lanolin and the mineral oil and add the potassium solution. Then add the titanium mass. Mix thoroughly and mill again.

LOTION

Castor Oil	6 ozs.
Oil Tar Rectified	10 "
Phenol	1 "
Formalin	1 "
Sesame Oil	160 "
Soft Soap	10 "
Alcohol	30 "

Perfume to suit

Procedure: Dissolve the soap in part of the alcohol using slight heat. Dissolve the formalin and the phenol in the rest of the alcohol. Mix the sesame, castor and tar oils, add the soap and then the formalin-phenol.

Other materials utilized in the preparation of ointments and lotions of this kind are: storax, creosote, ammoniated mercury, sulphonated bitumen, procaine hydrochloride, copper oleate, sublimed sulphur, balsam of Peru, titanium oxide, silver lactate, alcohol, olive oil, sesame oil, benzoated lard and a number of absorption bases.

Eczema Preparations

OINTMENTS

Lanolin	200 ozs.
Petrolatum	200 "
Beeswax	50 "
Phenol	5 "
Camphor	10 "
Oil Eucalyptus	50 "
Salicylic Acid	10 "
Perfume to suit	
	525 "

Pharmacy of Triethanolamine

(Continued from page 514)

paraffin in clear solution together. It may be compared with formula 15, which we have called EGen, and with Parogen A.P.F. Formula 15 contains only 2½ per cent of actual triethanolamine. It may be converted into the various medicated parogens of the A.P.F., and should prove much more economical in use. A 6 per cent solution of iodine in No. 15 forms an interesting preparation insofar as any iodine unabsorbed by the skin may be washed off, thus giving an absolutely stainless application if desired. As is the case in iodized ointments it is actually a suspension of iodized globules. Formula 16, which resembles the A.P.F. Analgesic Parogen, forms an elegant and, we venture to say, effective preparation.

The physical properties of Nos. 14 and 15 are interesting. No. 14 becomes turbid on warming. It will absorb 10 per cent of its volume of liquid paraffin, and becomes more susceptible to heating. When more paraffin is added it gives a turbid mixture, cleared by oleic acid, but not by alcohol, water or oleate. No. 14 will absorb alternatively 3 per cent of water, and is thereby thickened. Excess water forms a turbid mixture, cleared by oleic acid, or oleate-and-spirit, but not by spirit alone, or by paraffin. Alternatively No. 14 will absorb not more than 1 per cent of rectified spirit, but it is miscible with oleic acid. When No. 14 is diluted with its volume of water a stable oil-in-water emulsion is formed.

Formula 15 has rather different properties. It may be diluted with 10 per cent of its volume of water. This solution is then rendered turbid by application of cold or by further addition of water. The turbid solution may be cleared by alcohol (90 per cent), but not by oleic acid. Alternatively No. 15 may be diluted with 20 per cent of rectified spirit. Alternatively it may be diluted with 75 per cent of paraffin oil. The turbidity produced by excess is increased by the application of

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PROTEGIN

An absolutely odorless lanolin derivative. More than just an absorption base. It is offered in two grades:

PROTEGIN for HORMONE and TISSUE CREAMS having an unusually high water content and absorbability.

PROTEGIN X for COLD and CLEANSING CREAMS having a high oil and fat content.

TEGIN

The GLYCERIN ESTER of MONOSTEARIC ACID. A natural fat which does away with harmful alkaline creams. The simplest way to make beautiful VANISHING CREAMS that *are* stable.

TEGIN is ideal for STABILIZING STEARIC ACID CREAMS without changing the outer appearance of the creams.

COLD CREAMS
SUNBURN CREAMS
VANISHING CREAMS
TISSUE AND HORMONE CREAMS
AGAR & VEGETABLE OIL EMULSIONS
HAIR WAVING PREPARATIONS
FEMININE ANTISEPTICS
EYE WASHES
OINTMENTS

PRESERVATIVES

NIPAGIN M, NIPASOL M, and NIPABENZYL, chemically pure esters of p-hydroxybenzoic acid. Phenol coefficients: 3, 17, and 109. Neutral and non-irritating.

Recommended for their high efficiency in agar emulsions, gum solutions, eye washes, hair waving preparations, vaginal douches, vegetable oil emulsions, skin creams, and in any products which require an antiseptic or preservative.

Manufactured by the Julius Penner A.-G., Berlin-Schoeneberg, Germany.

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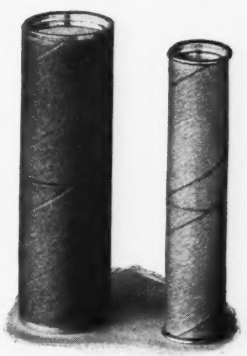

Now is the time to improve your packages and reduce your packaging costs. You can do both with Cleveland Containers. Many manufacturers have made this change and materially reduced their packaging costs --- and at the same time increased their sales through the improved package.

In the Cleveland line you will find a size and type of tubular container for practically every packaging need---and at a reasonable cost. Why not investigate NOW? Write for complete details and let a Cleveland man help you with your packaging problems.

THE CLEVELAND CONTAINER CO.
10627 BEREA ROAD, CLEVELAND, OHIO
Chicago—Pittsburgh—Philadelphia—Detroit—Rochester — Hoboken

cold, but removed by the addition of oleic acid, but not of alcohol. It is hoped that these apparently unconnected observations will throw some light on the system and help to produce products still more economically.

Owing to the low surface-tension possessed by its solutions even when diluted, the oleate suggests itself as a useful emulsifying agent. (Surface tension given for 0.15 per cent solution as 30 c.g.s. units; this is identical with the value for sodium oleate.)

Of the many possible methods of preparing these emulsions three in particular have given dependable results. They may be termed respectively:—

1. The Mortar Method.
2. The Extemporaneous Method.
3. The "Soluble Oil" Method.

The Mortar Method

This resembles the dry gum method of preparing emulsions with acacia. We dissolved 15 per cent of the soap in the oil and added water carefully (but not slowly) until the mixture had passed through the state of maximum thickness and was about to thin. The mixture was maintained in this condition for some time with continual stirring and scraping down. (The requisite amount of water to form this primary emulsion is usually equal to the amount of oil taken.) The emulsion was easily diluted to the required volume. Emulsions containing 33 per cent "oil" were prepared by us from a great number of bodies. Such emulsions contain less than 1.7 per cent of actual triethanolamine. The emulsions prepared by this method were re-examined at the end of three weeks:—

Emulsification perfect: 33 per cent. liquid paraffin, 33 per cent. kerosene.

Faint synerisis (separation of water): 20 per cent. turpentine.

Faint creaming (formation of two emulsified layers): 33 per cent. turpentine, 33 per cent. eucalyptus oil.

Distinct creaming: 33 per cent. linseed oil,* 33 per cent. cottonseed oil,* 33 per cent. olive oil,* 33 per cent. castor oil,* 33 per cent. arachis oil.*

Cracking (separation of oil globules): 33 per cent. eucalyptus oil,* old brown sample.

(*Signifies that it is necessary to add 10 per cent. of oleic acid to the oil to render the soap soluble, and thus assist emulsification. This is equivalent to 3.3 per cent. of acid in the final product. When the acid was omitted in these cases the emulsions quickly cracked.)

The Extemporaneous Method

This resembles the method used in making Turpentine Liniment A.P.F.:—

Oil	33.0
Oleic Acid	7.5
Mixed and placed in a stoppered vessel.	
Triethanolamine base	2.0
Distilled water	57.5
Mixed and added to the acid solution, with energetic shaking.	

The results obtained using this method were as follows:

33 per cent fixed oils: Emulsions behave as in mortar method.

33 per cent turpentine: Synerisis is shown and a faint tendency to cream.

20 per cent turpentine: As mortar method.

33 per cent kerosene or liquid paraffin: Faint tendency to cream.

(All after standing three weeks.)

Triethanolamine Formulas

1.—OINTMENT BASE (Water Absorbing).

Hard paraffin	25
Yellow soft paraffin (vaseline brand)	65
Triethanolamine stearate	10

2.—OINTMENT BASE.

White beeswax	18.75
Liquid paraffin	62.50
T. stearate	5.00
Stearic acid	2.75
Distilled water	11.00
Or to produce	100.0

3.—REFRIGERANT OINTMENT BASE (Soft) /or Soft Cold Cream.

Liquid paraffin	24.0
Hard paraffin	20.0
T. stearate	6.0
Stearic acid	3.0
Water (distilled)	47.0
Or to produce	100.0

4. and 5.—REFRIGERANT OINTMENT BASES (Firm)

Hard paraffin	nil	10.0
Liquid paraffin	40.0	24.0
Stearic acid	12.0	10.0
T. stearate	4.0	6.0
Glycerin	4.0	nil
Water (distilled)	40.0	50.0
Or to produce	100.0	100.0

6.—GREASELESS OINTMENT BASE.

Stearic acid	9.0
T. stearate	12.0
Alcohol, 90 per cent.	8.0
Distilled water	71.0
Or to produce	100.0

7.—GREASELESS ANALGESIC OINTMENT.

Menthol	4.57
Chloral hydrate	2.28
Methyl salicylate	9.40
Greaseless ointment as formula 6 to produce	100.00

8.—HAMAMELIS CREAM.

Stearic acid	15.0
T. stearate	7.5
Distilled extrace of Hamamelis	50.0
Glycerin	5.0
Distilled water	22.5
Or to produce	100.0

Agfa

For the development of the floral note in perfumes, we recommend:

AGFACTINE AGFA
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"FALBA" . . . . .
ABSORPTION BASE
An Oxycholesterin Product

Oxy-Cholesterin, "The Heart of Lanoline" with all its therapeutic skinsoothing qualities multiplied manifold is made available in convenient form, ready to use by FALBA ABSORPTION BASE.

Neutral **Acid & Alkali Resistant**

- FALBA ABSORPTION BASE will readily take up and hold up to five times its own weight of water. This water absorption does not thin out the finished product, but makes it firmer.
- FALBA ABSORPTION BASE does not contain Petrolatum; but any of the usual cream and salve ingredients such as Petrolatum, Lanoline, Oils, and Waxes can be compounded with it.
- FALBA ABSORPTION BASE allows the use of ingredients not possible in the old type base. It requires no preservative.
- FALBA ABSORPTION BASE in the proportion of four or eight ounces to 100 lbs. of powder will give you adherent properties without greasiness or shine and will cut your costs considerably.

Further suggested uses, samples and detailed information will be gladly sent on request.

LANOLINE, U. S. P.
Hydrous and Anhydrous

Beeswax---Sunbleached

Spermaceti

Have you tried the new delightful face powder odor

SHARIVAR
at $17.00 per lb.?

Pfaltz & Bauer, Inc.
300 PEARL STREET - NEW YORK CITY

8a.—GREASELESS LOTION (VEHICLE for).

Stearic acid	5.0
T. stearate	1.5
Alcohol, 90 per cent	4.0
Glycerin	2.5
Distilled water to produce	50.0
When cold dilute with enough distilled water to produce	100.0

9.—GREASY LOTION (VEHICLE for).

Liquid paraffin	30.0
T. stearate	6.0
Water (distilled)	64.0
Or to produce	100.0

10.—PARAFFIN PASTE (Cleansing Cream).

Hard paraffin	11.0
Liquid paraffin	63.0
Stearic acid	3.5
T. stearate	11.0
Alcohol	8.0
Water (distilled)	3.5

11.—VEGETABLE OIL OINTMENT BASE.

Almond oil	12.0
Stearic acid	4.0
T. stearate	12.0
Glycerin	10.0
Water (distilled)	62.0

Formulas, Incorporating Triethanolamine Oleate

12.—SURGICAL SOAP.

Alcohol	25.00
Glycerin	25.00
T. Oleate	17.50
Oil of bergamot	0.63
Oil of lavender	0.63
Water (distilled) to produce	100.00

13.—ETHERAL SOAP.

Ether	30.0
T. oleate	40.0
Oil of lavender	0.2
Alcohol to produce	100.0

Application and Liniment Bases

	14	15 (E. Gen.)	Parogen A.P.F.
Oleic acid	15.0	25.0	40.00
Strong solution of ammonia	nil	nil	1.75
Alcohol, 90 per cent	15.0	10.0	20.00
T. oleate	7.5	7.5	nil
Liquid paraffin	42.5	47.5	38.25
Water (distilled)	20.0	10.0	nil

16.

Chloral hydrate	2.0
Menthol	3.3
Camphor	4.5
Chloroform	6.5
Methyl salicylate	20.0
E. Gen. (formula 15)	63.7
	100.0

N. B.—In place of any triethanolamine soaps in these formulas one part of the base and two of the acid, both by weight, may be taken.

Wet Milling

(*Continued from page 544*)

up in the furrows—if the mill is allowed to stand without first being thoroughly cleaned.

The advantages of milling rolls are that they are quickly set up, easily cleaned; output is great and the batch may be controlled during the milling process. Their disadvantages are that they should not be used when the batch contains light sensitive or volatile substances because they are wide open; they should not be used when the batch contains anything that will quickly attack steel; they cannot be used when the batch contains anything that is hard and abrasive.

What has been said regarding milling rolls applies with equal force to colloid mills with the exception that the colloid mill may be used for batches containing light sensitive and volatile materials. As between the colloid mill and the stone and roller mills, the question of heating enters into the picture especially when certain products are being handled. Colloid mills are said to generate considerable heat from the terrific speed at which they operate. Some makers deny this; others claim to have controlled it. At all events when cooling is necessary as it so often is, it is probably easier to cool either a roller mill or a stone mill than it is a colloid mill because of the difference in the area of the milling faces. At any rate resinous drugs which are ground dry and tend to heat up at the slightest friction are ground in water jacketed Buhr stone mills.

However, there are certain "don'ts" that apply to every type of mill regardless of construction.

No. 1. Never force a mill. Forcing a mill by speeding it up unduly, by tamping with a stick or by force feeding with a screw destroys the efficiency of the mill because the product is not allowed sufficient time in contact with the grinding surfaces. Force a mill and your product will not be uniform and it is likely to be gritty. (This excepts heavy pastes that will not flow.)

No. 2. Never use a wrench in setting a mill. Bring the milling faces into contact only. This is especially true of under runner types which are adjusted by means of a nut. "Snugging" is a common mal practice. The milling surfaces are forced together as tightly as they can be driven on the assumption that by so doing the milling will be finer. This is emphatically not true. All that tight setting does is to heat the stones and so cause excessive wear; it heats the product unnecessarily and it increases the power consumption of the mill.

In the final analysis milling is a refining process. By passing a product through a properly set one or more times an impalpability is finally achieved that cannot be made any finer by mechanical means. When a mill is used to express air and to hasten a reaction as it is in the case of shaving cream one pass is enough. One pass is usually enough for the average tooth paste; ointments containing carbolic, sulfur salicylic acid or zinc oxide may require three or four passes; color masses should be run through four times.

News

People

Unemployment Relief

Ellery Mann, president, Zonite Products Corp., is chairman of the drug division of the Emergency Unemployment Relief Committee. John M. Olwyler, vice-president, of the Zonite Corp. is assistant chairman. Other members of the division are Hall Adams, vice-president of Fruit Industries, Inc.; B. H. Bedanes, vice-president of McKesson & Robbins, Inc.; Lee H. Bristol, vice-president of the Bristol Myers Company; E. W. Garbisch, president of the Cellulose Products Corporation; L. A. Klein, comptroller of William R. Warner & Co.; J. L. Johnston, president of the Lambert Company; J. Leon Lascoff, pharmacist; C. W. Magee, president of the Chesebrough Manufacturing Company; F. W. Moss, vice-president of Stanco, Inc.; Paul Muller, New York manager for the Owens Illinois Glass Company; W. J. Schieffelin, jr., president of Schieffelin & Co.; Dr. Frank J. Stein, advertising manager for the Denver Chemical Manufacturing Company; and Montaigu M. Sterling, president of E. Fougera & Co.

Welch Heads Relief

Charles Welch, secretary of the Associated Manufacturers of Toilet Articles, is divisional chairman of the Cosmetics Division of the Emergency Unemployment Relief Committee, New York. His associates include R. M. Kadjar, W. Cross, and T. J. Lewis, of Elizabeth Arden; Rose Laird, Joseph Schaeffer, Michael of the Waldorf, Emile Martin, Mrs. S. Stanlea, Stewart Meade, and Peggie Sage, of Jolie

Charles S. Welch

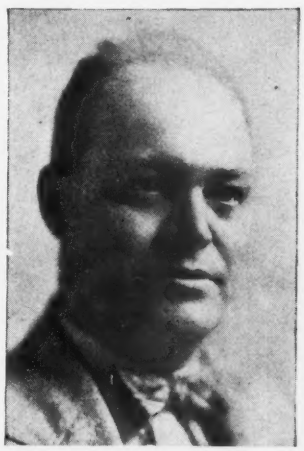
Main, Inc. Divisional captains include Mr. Kadjar, Mr. Aronson, of Bourjois, Inc., C. M. Baker, of the Ponds Extract Co.; D. H. McConnell, of the California Perfume Co.; Mrs. Robert I. Dodge, of Harriet Hubbard Ayer, Inc.; C. A. Pennock, of Richard Hudnut; C. Smith, of Yardley & Co., Ltd.; D. J. Mulster, of the Forty Seven Eleven Co.; and J. Depres, of Coty, Inc.

Clyde C. Marshall Succeeds Glidden

Directors of Petrolagar Laboratories, the Bovinine Co., and the Anacin Co., all units of the American Home Products Corp., have elected Clyde C. Marshall president to succeed O. E. Glidden, who retired to devote his entire attention to the Affiliated Products Corp. of which he is president and general manager. The directors also elected H. S. Howard as vice-president in charge of sales promotion. Mr. Marshall and Mr. Howard have been associated with the Petrolagar Laboratories for a long period.

Frank E. Layman Heads Sherka

Frank E. Layman has been appointed general manager of the Sherka Chemical Co., New York, succeeding E. R. Dick. He is a graduate of Ohio State University,



and has been associated with the Cutler-Hammer Manufacturing Co. and the Bakelite Corp. For about four years he has done consulting work which has brought him into contact with all sorts of conditions and problems which have a distinct and useful bearing on his present connection.

Cecil Smith Heads Yardley

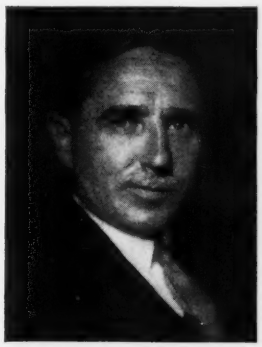
Cecil Smith, for many years vice-president and managing director, Yardley & Co., Ltd., New York, has been elected president of the company succeeding John B. Niven. Curtis Campaigne for several years sales director of the company has been elected vice-president. John B. Niven retains the office of secretary.

Popp, Brooklyn Lilly Mgr.

J. A. Popp has been appointed manager of the Brooklyn, N. Y. district, for Eli Lilly & Co., Indianapolis.

C. L. Bowman Joins Cowan & Dengler

Charles Luckey Bowman, formerly vice-president and general manager, Stanco,



Inc., New York, has been appointed vice-president, Cowan & Dengler, Inc., New York advertising agency.

C. P. McCormick Heads Company

Charles P. McCormick, formerly vice-president, McCormick & Co., Baltimore, and nephew of the late W. M. McCormick, has been elected president of the company. He joined the company after his discharge from the Navy at the close of the war, and after about three years in the plant started out as a salesman, and in 1922 took charge of the export department which, under his direction grew rapidly. In 1927 he was elected vice-president.

H. A. Baker, Amer. Can Sales V.P.

H. A. Baker, for fourteen years Chicago district sales manager of packers' cans for the American Can Company, has been made vice-president in charge of sales of that company. His headquarters will be at New York. A. H. Nugent succeeds Mr. Baker at Chicago.

Rogan, P. & G. Director

Ralph F. Rogan, secretary and advertising manager Proctor & Gamble Co., Cincinnati, has been elected a member of the board of directors.

Jack Joyce Joins Halitosine

Jack Joyce, formerly Middle West sales manager, Stanco, Inc., has resigned from that position as of January 1, to become merchandising and sales director of Halitosine Co., St. Louis.

Miss Rumbough Marries

Mr. and Mrs. Stanley Maddox Rumbough have announced the engagement of their daughter, Miss Elizabeth Colgate Rumbough, to Francis Russel Cowles. Mr. Rumbough is vice-president of the White Metal Manufacturing Co., Hoboken, N. J.

Hall Joins Parsons

James H. Hall, well-known cosmetic chemist, has become associated with M. W. Parsons Imports and Plymouth Organic Laboratories, Inc., New York, as specialist in cosmetic raw materials and cosmetic manufacture.

He received his training under George Hall, his father, who at that time was perfumer for the United Drug Co. and one of the best-known men in the field. Follow-

ing his service with the Royal Flying Corps in Canada during the World War, he participated in the founding of Compagnie Parento, Inc., and was with that company for several years. After a year spent as a consultant in the manufacture of cosmetics, he became associated with Harrison Laboratories as an expert in the refining and manufacture of beeswax and its uses in cosmetics, from which position he resigned to become associated with M. W. Parsons, New York.

H. A. Metz Heads Agfa-Ansco

Herman A. Metz, president, Metz Laboratories, Inc., New York, has been elected

president of Agfa Ansco Corp., Binghamton, N. Y.

Dr. Weltzien Visits Sherka

Dr. Julius Weltzien, managing director of Schering-Kahlbaum A. G., Berlin, Germany, is now visiting this country and is making his headquarters at the offices of the American companies, Sherka Chemical Co. and Schering Corp., at 75 West st., New York.

N. H. Noyes, Bank Director

Nicholas H. Noyes, secretary and treasurer of Eli Lilly & Co., pharmaceutical

manufacturer at Indianapolis, Ind., has been elected to a directorship of the Federal Bank of Chicago.

A. E. Tatham, B. & B. Adv. Mgr.

Arthur E. Tatham, formerly assistant advertising manager for Bauer & Black, manufacturer of pharmacal specialties and surgical dressings, Chicago, has been made advertising manager.

Dr. Snyder Joins Merck

Dr. J. K. L. Snyder, formerly with J. T. Baker, Chemical Co., has joined Merck & Co. as assistant to James J. Kerrigan.

Companies

American Products Expands

American Products Co., Cincinnati, has announced a program of expansion. At present the company has in operation twenty-seven distributing branches and plans to establish seventy-three more within the next eight months, making total of 100 such branches in various parts of the United States. Twenty of the new depots will be opened in January and February. Youngstown, O., and Louisville, Ky., are among the cities selected. A main depot will be opened in Brooklyn, N. Y., supplementing one now operating at Boston, Mass.

Dow Chemical Subsidiary

Dow Chemical Co., Midland, Mich., has organized a new subsidiary company to exploit the Dow process for increasing the production and rock porosity of oil wells. The new unit has been formed as Dowell Incorporated with an authorized capitalization of $100,000, of which $50,000 of stock has been issued. Willard H. Dow, president of the Dow Chemical Company, has been made president of the subsidiary also. Other officers named were:—Vice-president, L. I. Doan; secretary, S. W. Putnam; and treasurer, Russell L. Curtis. In addition to those officers, A. P. Beutal and J. J. Grebe were elected directors.

Ex-Lax Obtains Injunction

An injunction restraining the Natura Health Association, the Natural Health Products Co., Milton Botwen, and Morris Botwen from making any false, misleading, or deceptive statements concerning "Ex-Lax", has been awarded to Ex-Lax, Inc., by Judge Mitchell May of the Supreme Court of New York State, in Brooklyn.

In a bill of complaint filed by its attorney, Irvin A. Edelman, Ex-Lax, Inc., charged that the "Natural Health" organizations, officials, and employees, in selling psyllium seed products, slandered Ex-Lax and misrepresented that this product contained poisons and other dangerous substances. It was charged that the defendants attempted to frighten purchasers of Ex-Lax, in order to get them to buy the products of the defendants, by making false and detrimental statements about Ex-Lax.

According to Mr. Edelman, the injunction granted by Judge May restrains the defendants and their employees and agents, among other restraints, as follows:

1. From using any false, deceiving or misleading statements in the course of the business of defendants in the sale or distribution of its or their psyllium seed products, "Manam" and/or "Syladex."

2. From directly or indirectly making any false, deceiving or misleading statements concerning the plaintiff, plaintiff's business and character or composition of plaintiff's Ex-Lax products.

3. From directly or indirectly making false statements that plaintiff's Ex-Lax laxatives contain poisons, poisonous substances, acids or any dangerous, injurious or harmful substances.

4. From directly or indirectly making any statements that Ex-Lax laxatives injure the health of individuals or are harmful, dangerous, injurious or deleterious in any way.

5. From directly or indirectly or by innuendo or otherwise giving or creating false, deceiving or misleading impressions with respect to or about plaintiff's products.

6. From acquiescing in, consenting to, permitting, suffering or allowing anyone in their employ or connected with or associated with the defendants or any of them or with any of their officers, agents, servants, employees or clerks to do, procure to be done or suffer to be done any of such prohibited and enjoined acts or things or make any of such prohibited statements.

Hexin, Inc.

Hexin, Inc., has been formed in Chicago to market "Hexin," a tablet for the relief of colds, headaches, etc. W. D. Bagby, president of Sellers Service, Inc., Chicago agency is president of the new company. "Hexin" is said to be half acetylsalicylic acid and half pyrazolone.

STURGE'S STANDARD PRECIPITATED CHALK

CHEMISTS who work with tooth paste have one unalterable rule: above everything else the precipitated chalk must never vary in uniformity from the grade adopted for the tooth paste formula.

For fifty years Sturge's Standard Precipitated Chalk has been manufactured, developing an unsurpassed technique in quality and uniformity control.

That is why manufacturers of leading tooth paste brands, from the beginning of their business, have specified Sturge's Standard.

U. S. P. ALWAYS

Sturge's Standard Chalks have always been up to the standard of the U. S. P.

NO GRIT

All Sturge's Standard Chalk is free from grit.

NO FREE ALKALI

By special methods of manufacture the available alkalinity of Sturge's Standard Chalk is so reduced that there is no red coloration when dilute phenolphthalein is poured upon the dry powder.

COLOR UNADULTERATED

Sturge's Standard Chalk is not treated in any way and exhibits only the natural bright white of the pure Calcium Carbonate.

FREE FROM METALS

Finally, the standard of the U.S.P. is sufficiently severe to condemn all but the slightest traces of metallic impurities, so that the almost entire absence of these in Sturge's Standard Chalks is guaranteed.

JOHN & E. STURGE, Ltd.,

Birmingham, England

Distributors:

H. J. BAKER & BRO.

271 Madison Ave., New York, N. Y.

FOR A GOOD TOOTH PASTE

Dr. Hans Molitor Joins Merck

Geo. W. Merck, president, Merck & Co. Inc., has announced the appointment of Dr. Hans Molitor, of the University of Vienna, to the research staff of the company. Dr. Molitor will assume the direction of research work in pharmacology. In announcing the appointment, Mr. Merck stated:

"The addition of Dr. Hans Molitor, of Vienna, to the staff of Merck & Co., Inc., results from the decision of the management to adopt a policy of intensive research in pure and applied chemistry and allied subjects. To provide adequate facilities for this research work, Merck & Co., Inc., is constructing at Rahway, N. J., at the present time, a research laboratory to cost in excess of 200,000, which will house a staff of 25 research chemists. Dr. Molitor will take over the supervision of the details of equipping and staffing the laboratory to be devoted to research in pharmacology."

Brosis Cosmetics

Brosis Laboratories, Chicago, will introduce a new line of cosmetics, January 1. The initial items of the line are a cream and a powder, called respectively "Turtlene Facial" and "Velveskin." The complete line will be divided into three divisions: one for the face, the second for the hair and scalp, and the third for the hands and nails. The "Borsis" line is sponsored by Ida and Simon Padnos, formerly associated with the Lady Esther Company.

Armstrong Closure Division

Formation of a new sales division, called the Closure Division, is announced by the Armstrong Cork & Insulation Co., Lancaster, Pa. Dwight L. Armstrong, a vice-president of the company, has been made general manager of this division which is comprised of three departments; the Corks Department, E. F. Ebberts, manager; the Cap Department, S. L. Barnes, manager; and the Crown Department, J. C. Feagley, manager, assisted by J. M. McCormick.

During the past two years molded, cellulose, brass, and tin caps have been added to the line which formerly consisted of corks of all kinds, crown caps, embossed top corks, rubber stoppers and cap liners. The consequent increase in sales and service has necessitated setting up separate sales divisions for selling closures and other products that were formerly sold through a single sales organization, the Cork Division.

Anchor Cap Announcement

Anchor Cap & Closure Corp., Long Island City, N. Y., has issued an illustrated four-page folder announcing new low prices on Anchor Amerseal, C. T. B., C. T., and Deep Screw Caps.

Nusheen Co. Expansion

Nusheen Co. has increased its factory space and opened a Canadian plant at Hamilton, Ontario. The business there will be operated under the name, Nusheen Co. of Canada.

M. Fischer, N. Y. Hair Co., Nusheen's United States distributors, and Armand V. Blatt, president, Nusheen Co., have left for Europe to arrange for the sale of the product on the Continent.

Sonia Harrison Cosmetics

Sonia Harrison, wife of Maurice Harrison, president, Boston Drug & Chemical Co., and New England Seidlitz Powder Co., has opened a plant in Everett, Mass., specializing in the manufacture of cosmetic creams, shampoos and mouth washes. Mrs. Harrison was formerly associated with the Boston Drug & Chemical Company.

Lusteroid Container Co.

Lusteroid Container Co., South Orange, N. J., has been formed to take over the business formerly conducted by the lusteroid division of the Sillcocks-Miller Co., consisting of the manufacture and sale of celluloid containers of all kinds. R. H. Davis is president and treasurer of the new company and H. F. Colvin, vice-president and secretary. Other members of the board of directors include Russell Colgate, formerly of the Colgate-Palmolive-Peet Co.; Stanley M. Rumbough and Hubert Richter, of the White Metal Manufacturing Co.; Charles H. Colvin, formerly president, Pioneer Instrument Co.; and Christopher Wagner, member of the board of Bendix Aviation Co.

Group Insurance Adopted

The Wm. S. Merrell Co., Cincinnati, and Northwestern Drug Co., Minneapolis, have adopted group life insurance policies for the benefit of their employees.

Jamieson Appoints Finzel

C. E. Jamieson & Co., Detroit, has appointed G. K. Finzel to take charge of sales on the West Coast, succeeding A. G. Parnia.

Plough Advertises Penetro

Plough, Inc., Memphis, has started a large advertising campaign featuring "Penetro" salve and nose and throat drops.

Strong Cobb Appoints Nelson

Strong Cobb & Co., Cleveland, has announced that J. J. Nelson, secretary and treasurer of the company has become assistant general manager, and R. W. Hompe, vice-president in charge of production and purchasing.

Compagnie Parento in Canada

Compagnie Parento, Inc., Croton-on-Hudson, N. Y., has announced the formation of Compagnie Parento of Canada, with offices at 73 Adelaide st., West, Toronto 2, Ontario, Canada. E. C. Barton, assistant secretary of Compagnie Parento, is manager of the Toronto office.

Calco Acquires Noil

Calco Chemical Co., Bound Brook, N. J., has acquired the Noil Chemical & Color Works, New York.

Home Drug Co.

Home Drug Co., New York, wholesaler, has leased space at 109 W. 64 st., that city.

California Cosmetics Expands

California Cosmetics Corp., Los Angeles, has moved its plant to larger quarters at 7702 Santa Monica blvd., that city.

Stafford Allen Book

Stafford Allen & Sons, Ltd., London, has published an interesting, 135-page book, entitled "The Romance of Empire Drugs." Over 50 crude drugs are discussed in this volume all of them with the aid of attractive illustrations. Copies may be obtained through Ungerer & Co., New York, American representatives for Stafford Allen & Sons, Ltd.

A. D. S. Show Globes

American Druggists' Syndicate, Inc., Long Island City, N. Y., is distributing to retailers without cost, metal Neon prescription signs and prescription show globes.

Liggett Rents

A nationwide committee of landlords of the Louis K. Liggett Co. has been formed for the purpose of centralizing discussion of the rental problem. Liggett officials are reported to be cooperating with this committee to arrive at a settlement of the matter. Following the formation of this committee hearings in the litigation were postponed until January 3.

Mercury Dealer

Roura & Forgas, Inc., New York, has been organized to deal in quicksilver.

Virginia Lee Sold

Virginia Lee, Inc., Baltimore, cosmetics, has been purchased by Benjamin Cisenfeld, owner of Ben's Cut-Rate Drug Co.

Exchange BRAND

CITRIC ACID U. S. P.

CRYSTALS · GRANULAR · POWDERED
MADE FROM AMERICAN LEMONS

Exchange Brand Citric Acid U. S. P. is made from American Lemons by the Exchange Lemon Products Company of Corona, California. It is backed by the Sunkist group of 13,200 California Citrus growers, the largest in the world. Immediate shipments are made from warehouse stocks in New York, Chicago, Philadelphia and St. Louis. Consult any of our distributors for prices on kegs, barrels or carloads.

DISTRIBUTED EAST OF THE ROCKIES BY

Mallinckrodt CHEMICAL WORKS
St. Louis Philadelphia
New York Chicago

J. T. BAKER CHEMICAL COMPANY
Phillipsburg
New Jersey

DODGE & OLCOTT COMPANY,
180 Varick Street,
New York City

NEW YORK QUININE & CHEMICAL WORKS
101 North 11th Street
Brooklyn, New York

PACIFIC COAST SERVED BY

Products Department - CALIFORNIA FRUIT GROWERS EXCHANGE, Ontario, California

Acephenetin On Label

Several manufacturers have recently inquired of the Federal Food and Drug Administration whether or not packages of acetphenetidin shipped to pharmacists for use in filling prescriptions, or to manufacturers for use in compounding medicines, need to bear a statement not only that the package contains acetphenetidin but also that this substance is a derivative of acetanilid.

Section 8, paragraph Second in the case of drugs, of the Federal food and drugs act, defines a drug as misbranded "if the package fail to bear a statement on the label of the quantity or proportion of any alcohol, morphine, opium, cocaine, heroin, alpha or beta eucaine, chloroform, cannabis indica, chloral hydrate, or acetanilid, or any derivative or preparation of any such substances contained therein." Regulation 24 requires that "In declaring the quantity or proportion of derivatives of any of the specified substances, in addition to the trade name of the derivative, the name of the specified substance shall also be stated so as to indicate clearly that the product is a derivative of the particular specified substance." This interpretation has been upheld by the courts. No distinction is made in the law or regulations between wholesale and retail packages. It follows, therefore, that all interstate shipments of both wholesale and retail packages of derivatives of the drugs specifically mentioned in this section of the act, or compounds containing them, should bear not only a declaration of the particular drug they contain but also a statement showing the parent substance from which it is derived. Such statement should be made in a plain and conspicuous manner.

A. M. A. Rejects

GAN-AIDEN

Gan-Aiden, marketed by the Fantazn Laboratories, Los Angeles, because it represents only another case of exploiting a well-known drug in a preparation of undeclared composition, under a noninforming proprietary name.

Amertan, Manufactured by Eli Lilly & Co., Indianapolis, because it is a mixture of insufficient originality to entitle it to a proprietary name and because no evidence is presented for its clinical advantage over other forms of medication in the conditions for which it is proposed.

A. M. A. Accepts

DEXTROSE, LEDERLE

Dextrose, prepared by Lakeside Laboratories, Inc., Milwaukee, Wisc.

LIVER EXTRACT, LEDERLE

Solution Liver Extract for Oral Use, manufactured by Lederle Laboratories, Inc., Pearl River, N. Y.

NOSTRAL

Nostral (Isopropyl bromallyl barbituric acid) manufactured by J. D. Riedel-E. de Haen.

A. D. A. Rejects

SENSITEX

Sensitex, King's Specialty Co., Fort Wayne, Ind., because the composition is not frankly declared on the label; it is advertised with unwarranted therapeutic claims; it represents a simple solution of an official drug for which the Council cannot recognize a proprietary name.

DR. STRASSKA'S TOOTH PASTE

Dr. Strasska's Tooth Paste, Strasska Laboratories, Los Angeles, because the firm withholds from consumers who are asked to use the product a statement concerning the composition and because it contains silica, a potentially abrasive substance, the daily use of which cannot be considered in the interests of the public or the profession.

Final Castile Soap Decision

The castile soap case was refused review by the Supreme Court of the United States, December 5.

This action leaves in effect the decision of the seventh United States Circuit Court of Appeals setting aside the order of the Federal Trade Commission against James S. Kirk & Co. (purchased by the Procter & Gamble Company during the proceedings), which would have confined the term, "Castile," to soap made with nothing but olive oil as the fatty ingredient.

Under this decision the industry is free to apply the soap term to almost any kind to soap it desires.

Butyl Alcohol Patent Valid

The Weizmann patent for the production of acetone and butyl alcohol by bacterial action was upheld in the decision of the United States Circuit Court of Appeals for the Third District rendered December 7, in the appeal of the Union Solvents Corporation from a decision of the Federal district court at Wilmington in the action brought by the Commercial Solvents Corporation and others against the Union Solvents Corporation, alleging infringement of the patent in question.

Counterfeiting Bill Introduced

A federal bill making the shipping of counterfeit drugs in interstate commerce a felony was introduced in the Senate by Senator Wagner (N.Y.), December 12. Horace W. Bigelow, general counsel of the American Drug Manufacturers' Association, has been working on this bill for some time, and its introduction in the Senate marks the first step toward final enactment of the measure. After enactment of the bill, it is planned to introduce similar bills in the legislatures of the several states. Complete text of the proposed bill follows:

"A bill to prohibit the counterfeiting of drugs, to provide penalties therefor, and for other purposes.

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Federal Counterfeit Drug Act."

SEC. 2. As used in this Act—

(a) The term "Territory" shall include

Horace W. Bigelow

the District of Columbia and the insular possessions of the United States.

(b) The word "person" shall mean any individual, copartnership, corporation, or unincorporated association.

(c) The term "drug" shall include all medicines and preparations recognized in the United States Pharmacopoeia or National Formulary for internal or external use, and any substance or mixture of substances intended to be used for the cure, mitigation, or prevention of diseases of either man or animals.

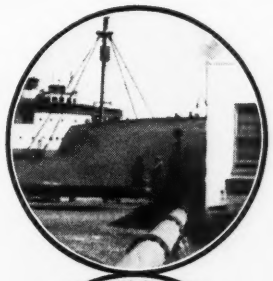
(d) The term "label" shall include any printed matter or other device designed to be affixed by any means or in any manner whatsoever to any bottle, package, box, or other container or wrapping for the purpose of designating the producer, manufacturer, packer, owner, or seller of the contents thereof.

SEC. 3. A label shall be deemed to be a false, forged, or counterfeit label within the meaning of this Act when it is so made as to induce the belief that the drug in connection with which it is used or intended to be used is the product or property of a person other than the actual producer, manufacturer, packer, owner, or seller of such drug.

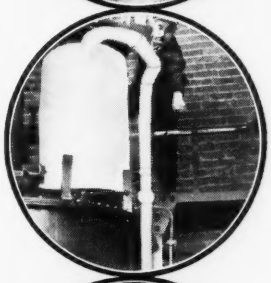
SEC. 4. It shall be unlawful for any person within any Territory of the United States to sell or offer for sale, or to have in his possession, (1) any drug to the container or wrapping of which there shall have been affixed by any means or in any manner whatsoever any false, forged, or counterfeit label, (2) any such label intended for use in connection with any drug, or (3) any die, plate, brand, engraving, or other article intended for use in the making of any such label.

SEC. 5. It shall be unlawful for any person (a) to ship or deliver for shipment

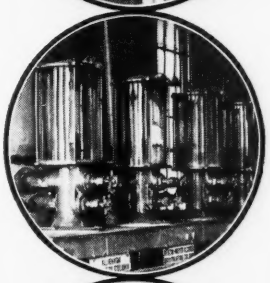
• DIVISION OF U. S. INDUSTRIAL ALCOHOL CO. •



Four company-owned steamers deliver raw material direct to plant.



Special distillation process calling for absolute accuracy in control.



Tail box assembly in the anhydrous alcohol plant.

Filling room for drum shipments of solvent chemicals.

ANHYDROUS ALCOHOL

(Pure and Denatured Ethyl Alcohol)

(C_2H_5OH—99.8-100%)

SPECIFICATIONS

Color and Properties:
Clear, water-white liquid, characteristic odor

Constants:* *(for pure alcohol)*
Specific gravity: Not more than 0.7940 at 60/60°F.
Weight per Gallon: 6.62 pounds
Acidity: Free acid as acetic, not over 0.02%
Boiling Point: 78.4°C.
**Constants for Denatured Anhydrous Alcohol will naturally vary with the quantity and character of the denaturants but will approximate the above.*

Solubility:
Miscible with water without turbidity

Dryness:
When 10cc. of the alcohol is shaken in a stoppered tube with 0.5 gm. anhydrous copper sulphate, the latter does not turn blue.

Derivation:
Removal of water from ordinary 95% alcohol by a continuous process

Method of Purification:
Distillation

Grades:
Pure and Denatured (all formulae)

Containers:
Tank cars, 50-, 10-and 5-gallon steel or tin-lined drums, ½-litre bottles—36 to the case

Fire Hazards:
Alcohol is inflammable, having a flash point below 80° F. Precautions should be taken to keep flames away from its vapors

ANHYDROUS Alcohol, because of its total freedom from water content, is a valuable adjunct in the preparation of many pharmaceutical formulae where the presence of moisture is undesirable.

A patented and exclusive process of continuous distillation developed in the U. S. I. C. laboratories permits production of a practically pure anhydrous alcohol in any commercial quantity. Because of the affinity standard ethyl alcohol has for water it is not possible to produce anhydrous alcohol by ordinary direct distillation. Standard alcohol is 95% spirits by volume and 5% water. This water content is removed by chemical or physical means to produce anhydrous alcohol. Before development of the continuous distillation process, anhydrous alcohol was prepared by dehydrating standard alcohol with quicklime . . . a wasteful and tedious method.

May we send quotations? U. S. Industrial Chemical Co., Inc., 60 East 42nd Street, New York, N. Y. Branches in all principal cities.

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WORLD'S OLDEST AND LARGEST MANUFACTURER OF ALCOHOL CHEMICALS

Ethyl Phthalate. Butyl Phthalate. Nitrocellulose Solutions

Amyl Acetate. Butyl Acetate. Ethyl Acetate Ethyl Chloro Carbonate. Ether

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from any State or Territory of the United States into any other State or Territory of the United States, or to any foreign country (1) any false, forged, or counterfeit label intended for use in connection with any drug, (2) any drug to the container or wrapping of which there shall have been affixed, by any means or in any manner whatsoever, any such label, or (3) any die, plate, brand, engraving, or other article intended for use in the making of any such label, or (b) to deliver or offer to deliver to any person, in the original, unbroken package, any such label, drug, die, plate, brand, engraving, or other article, after having received the same in any State or Territory of the United States from any other State or Territory of the United States, or from any foreign country.

SEC. 6. Any person violating any of the provisions of this Act shall be guilty of a felony, and upon conviction thereof shall be fined not less than $1,000 nor more than $5,000 and imprisoned for not less than five years nor more than ten years.

SEC. 7. It shall be the duty of each of the district attorneys of the United States upon the filing with him of any report of a violation of this Act within the district for which he was appointed, to investigate the same, and, upon satisfactory evidence of such violation, to cause appropriate proceedings to be brought in the district court of the United States for such district for the enforcement of the penalties provided in section 6 of this Act, and for the seizure of any articles in the possession of the person committing such violation the manufacture, sale, transportation, or possession of which is prohibited by this Act.

SEC. 8. Upon the conviction of any person of a violation of any of the provisions of this Act the court may order the confiscation and destruction of any label, drug, or other thing seized.

SEC. 9. If any provision of this Act, or the application thereof to any person or circumstances, is held invalid, the remainder of the Act and the application of such provisions to other persons or circumstances shall not be affected thereby.

Associations

Drug Trade Conference

National Drug Trade Conference held its annual meeting in Washington, Dec. 14. The meeting was directed by Carson P. Frailey, of the American Drug Manufacturers' Association, and president of the conference. Among the topics discussed were: Enforcement of the food and drug act as applied to drugs; H. R. 11—the Capper-Kelly "Fair Trade" bill; Pharmacy corps in the medical department of the United States Army; The Copeland and Celler bills; Pharmacy and the Century of Progress Exposition in Chicago in 1933; Recent efforts to stop the misuse of the word, "drug," where a narcotic drug is meant; additional taxation; counterfeiting drug products; certificates for pharmaceutical products sold in foreign countries.

Reports were presented for the following committees by the chairmen, as indicated: General status of pharmacy and the drug trade, by R. L. Swain; tabulation of potent and toxic drugs, by J. H. Beal;

Carson P. Frailey

Uniform State antinarcotic act, by A. C. Taylor; endowment, by Philip I. Heuisler.

A special committee also reported on the draft of a uniform state narcotic drug act, recently adopted by the Commissioners on Uniform Laws and approved by the American Bar Association. This committee consists of A. C. Taylor, National Association Boards of Pharmacy; E. C. Brokmeyer, Federal Wholesale Druggists' Association; Dr. E. F. Kelly, American Pharmaceutical Association; W. Bruce Philip, National Association of Retail Druggists; and R. L. Swain, in charge of pharmacy law enforcement in Maryland.

Other reports were that of S. L. Hilton as councilor in the Chamber of Commerce of the United States, and that of P. I. Heuisler as delegate to the conference on the simplification of glass containers.

I. & D. M. A. Convention

Insecticide & Disinfectant Manufacturers' Association held its nineteenth annual convention at the Hotel New Yorker, December 12 and 13. The meeting opened with the customary reports of the president, Evans E. A. Stone, Wm. Peterman, Inc.; the treasurer, John Powell, John Powell & Co.; and the secretary, H. W. Cole, Holbrook, Mass.

Among those who spoke at the two-day session were Charles P. McCormick, McCormick & Co.; W. J. Zick, Stanco, Inc.; Dr. Charles H. Peet, Rohm & Haas Co.; Lee Bristol, Bristol-Myers Co.; Peter Dougan, Merck & Co.; Dr. Emil Klarmann, Lehn & Fink; Dr. Geo. F. Reddish, Lambert Pharmacal Co.; L. C. Himebaugh, Pepsodent Co.; Dr. Alfred Weed, Entomological Testing Laboratories.

Officers for 1933 were elected as follows: president, Peter Dougan, Merck & Co.; first vice-president, C. P. McCormick, McCormick & Co.; second vice-president, S. H. Bell, Koppers Products Co.; treasurer, John Powell, John Powell & Co.; secretary, Harry W. Cole, Holbrook, Mass.

Christmas Parties

CHICAGO DRUG & CHEM. ASSN.

The Chicago Drug & Chemical Association will hold its annual banquet at the Knickerbocker Hotel, Chicago, Dec. 22. Arrangements for the banquet are in charge of Walter A. Kochs, of Victor Chemical Works, chairman of the committee; Floyd K. Thayer, of Abbott Laboratories, vice-chairman; Chris Christensen, of Chas. Pfizer & Co., Inc.; Charles S. Curtis, of the Wilson Laboratories; L. S. Flanedy, of Parke, Davis & Co.; F. J. Heil, of Grasselli Chemical Co., Inc.; Ottmar M. Krembs, of Krembs & Co.; Leo A. Lanigan, of McKesson-Fuller-Morrison Co.; Frank L. McCartney, of Norwich Pharmacal Co.; A. G. Schneider of Victor Chemical Works; W. Kedzie Teller, of the Columbus Laboratories, and W. P. Trebilcock, of the Coca-Cola Company.

N. Y. SALESMEN

The Salesmen's Association will hold its annual Christmas Party at the Park Central Hotel, December 29. Those in charge of the entertainment are L. E. Swenson, American Cyanamid Co.; John Leppart, Columbia Alkali Co.; C. E. Kelly, Hagerty Bros.; J. Alvarez, Grasselli Chemical Co.; and Charles Lichtenberg, Commercial Solvents Corp.

DRUG TRADE SECTION

Drug, Chemical and Allied Trades Section of the New York Board of Trade held its annual Christmas party at the Hotel Astor December 20. The guest speaker was Billy B. Van, who entertained in his usual inimitable fashion. Percy C. Magnus, chairman of the section, presided, and the program was arranged by the committee consisting of Victor E. Williams, chairman, Gustave Bayer and Ray C. Schlotterer.

A. M. T. A. Entertainment Committee

The entertainment committee of the Associated Manufacturers of Toilet Articles which will organize the entertainment of the 1933 convention of the Association, has been reorganized due to the death of Frank J. Lynch, chairman of the committee. There will be no new chairman elected, and the name of Frank J. Lynch, deceased, will continue as of that office in honor to his memory. The committee will function under the active direction of L. R. Root, of Scovill Manufacturing Co., who is First-Vice-chairman of the committee. Mr. Root has appointed W. C. Young, of Swindell Bros., formerly Second Vice-chairman, to the office of Treasurer. He has appointed E. W. King, of Lorscheider Schang Co., to fill the office of Second Vice-chairman, and Charles E. Kelly, of Hagerty Bros., Assistant Treasurer.

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Acid Salicylic — **Sodium Salicylate**

Acetyl Salicylic Acid

Methyl Salicylate — **Minor Salicylates**

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HEXAMETHYLENETETRAMINE

Benzoate Soda
Benzoic Acid
Benzaldehyde
Benzyl Chloride
Creosote
Creosote Carbonate

Bromides
Silver Salts
Guaiacol
Calcium Guaiacol Sulphonate
Potassium Guaiacol Sulphonate
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Obituaries

Frank J. Lynch

Frank J. Lynch met his death on Sunday, December 5, at the controls of his airplane, the Cicada, at Bowles Airport in Agawam, near Springfield, Mass. Smashing into a hangar while taking off in a test flight, the plane burst into flames which quickly consumed both craft and pilot.

A brilliant and versatile personality, few men were better known to this industry. As one of the founders of Sun Tube Co. and its first president, his remarkable record in establishing a unique production and merchandising plan, as well as the series of pungent, effective advertisements which appeared over his signature, quickly put the company among the leaders in its field and established for it an international reputation.

The coming convention of the Associated Manufacturers' of Toilet Articles would have marked the third year in

which the entertainment committee had functioned under the direction of Frank Lynch to the startled satisfaction of members and visitors. There are stories of this committee which will be legends in the trade.

Born 43 years ago in Waterbury, Conn., Frank Lynch was early apprenticed in shop and metal work at the Chase Brass Co. and the Scovill Manufacturing Co. He left Waterbury to handle production at the Peerless Tube Co. and in 1917 entered the service to become famous as stunt flier and instructor. He served with the 313th Pursuit Squadron. After the war, he was one of the first stunt fliers employed by Famous Players.

During the last two years, he had devoted his time to the design of a new series of tube-making equipment, to his business interests, among which was a directorship in van Ameringen-Haebler, Inc., New York, and to helping in the construction of his plane, the Cicada, which he had painted in brilliant green and black in exact imitation of the Mexican beetle. This plane, with a cruising radius of 1,800 miles at 150 miles per hour, was to be used in a world tour which he had planned with his wife.

The funeral was held at the home of his father, John Lynch, with services in the church of the Immaculate Conception, Waterbury, Conn. A military service was conducted by the Corporal Coyle Post of the American Legion and a squad of National Guard planes circled the cemetery, to dip in salute.

Among the large gathering of friends and acquaintances were former associates from Sun Tube Co., members of the firm of van Ameringen-Haebler, members of the entertainment committee of the A.M.T.A., of which he was chairman, and many friends from old connections in business aviation and the service.

He leaves a wife, the former Josephine McKee, and two children.

Aviator, acrobat, manufacturer, inventor-mechanic and fisherman par excellence, those who knew Frank Lynch best will miss him most.

Francis E. Holliday

In his eightieth year, Francis E. Holliday, for many years secretary of the National Wholesale Druggists Association, and during recent years general representative of the association, died on November 19 at Wooster, O. He served the N. W. D. A. for a period of thirty-three years and was probably as widely known throughout the entire drug as any other individual.

Thomas Stoddart

Thomas Stoddart, former president, New York State Pharmaceutical Association, one of the organizers of the National Association of Retail Druggists, and for 56 years a leading druggist of Buffalo, where he was head of the firm of Stoddart Brothers, died at his home in that city December 3, aged 76.

Dr. Wm. R. Clifton

Dr. William Ridley Clifton, president, Behrens Drug Co., Waco, Tex., wholesalers, died at his home in that city, November 18, aged 83.

John H. Stevens

John H. Stevens, pioneer in the celluloid industry and former general manager of the Celluloid Corp., died at his home in South Orange, N. J., December 4, aged 80.

Financial

McKesson Stock Value

McKesson & Robbins, Inc., held a special stockholders' meeting in Baltimore December 9, for the purpose of requesting the stockholders to approve a change in the par value of the company's authorized and issued common stock from shares of no par value to shares of $5 par value. The change, it is announced, would result in a saving on the part of the corporation in the matter of franchise taxes, and at the same time it will result in a reduction in transfer tax charges for both present and future stockholders.

Earnings and Dividends

ABBOTT LABORATORIES

Abbott Laboratories, North Chicago, has declared a quarterly dividend of fifty cents, payable January first to stockholders of record December 19th.

James F. Stiles, treasurer, reported net earnings for eleven months of 1932 sufficient to cover present dividend requirements.

Alfred S. Burdick, president, announced a Christmas Bonus to the employees of five per cent. of November salaries. He also stated that the increase in sales of November, this year, as compared to the same month last year, was due in a measure to the demand for two new research products—Abbott's Haliver Oil with Viosterol 250 D and Haliver Malt with Viosterol, Liver Extract, Calcium, Phosphorus.

COTY, INC.

Coty, Inc., and Domestic Subsidiaries reports for nine months ended Sept. 30: Net income after depreciation, Federal taxes and other charges, $181,139, equal to 31 cents a share on 1,537,435, no-par capital shares, against $621,910, or 40 cents a share on 1,535,976 shares, in 1931. Quarter ended Sept. 30: Net income after above charges, $169,166, equal to 11 cents a share on 1,537,135 shares, against $129,180, or 8 cents a share on 1,536,191 shares, in preceding quarter, and $188,001, or 12 cents a share on 1,535,976 shares, in third quarter last year.

McANDREWS & FORBES CO.

MacAndrews & Forbes Co. reports for nine months ended Sept. 30: Net profit after expenses, Federal taxes, company's proportion of subsidiaries' operating results, and other charges, $378,039, equivalent after six per cent. preferred dividend requirements to 89 cents a share on 319,643 no-par common shares, compared with $630,631, or $1.61 a share on 332,600 common shares, last year. Quarter ended Sept. 30: Net profit after above deductions, $110,828, equal after preferred dividends to 25 cents a share on 319,643 common shares, compared with $127,315, or 30 cents a share on 320,143 common shares, in preceding quarter, and $200,234, or 51 cents a share on 332,600 shares, in third quarter last year.

NATIONAL OIL PRODUCTS CO.

National Oil Products Co., Harrison, N. J., has declared an extra dividend of $1 a share, together with the regular semi-annual dividend of $1 a share on the common stock. It has also declared the usual quarterly dividend of $1.75 a share on the preferred stock. All dividends are payable January 1 to stock of record December 20.

Toilet Preparations Stand or Fall on the Quality of their **Basic Ingredients**

Neither secret formula nor manufacturing skill alone insure successful selling quality. The grade of basic materials you use, in the long run, makes or breaks your product. Over 40 years of highly successful experience with manufacturers and packers attests our ability to contribute the grade and variety of basic ingredient that will creditably take care of your product's quality.

Almond Meal	FACTOLAC	Talcum
Balsam Tolu	Gum Arabic	Irish Moss
Benzoin Gum	Gum Tragacanth	Lavender Flowers
Chalk (Precipitated)	Henna	Olibanum
Chinese Shavings	Henasoap Shampoo	Orris Root
Cuttle Fish Bone	Indian Gum (Karaya)	Powdered White Soap

QUINCE SEED OF THE HIGHEST OBTAINABLE QUALITY

HOPKIN'S NEUTRAL WHITE SOAP—Powdered, Granulated. Contains NO Soap Bark, Free Alkali, Free Acid, heavy metals. Totally free of rosin, sugar and foreign matter.

FREE at your request: The Hopkins "BASIC INGREDIENTS" booklet. Useful, informative, valuable.

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SNOWFLAKE BEESWAX

Additional acreage for sun bleaching of our beeswax is now in full production at Morris County, New Jersey, while our long-established sun-plant at Elmsford continues to make deliveries of the brand that made us famous. Stocks are always on hand at Chicago, St. Louis, Paris, Tennessee, Los Angeles and San Francisco.

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(Est. 1880)

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Drug Markets

Review of conditions affecting markets and prices of chemicals, aromatics, essential oils, flavors, crude drugs and other raw materials, together with an alphabetical list of market prices.

Section also contains condensed review of patents and abstracts of particular interest to the chemist and those in charge of technical control.

Menthol Firmer

Menthol, after a slight reaction of 5c per pound during the past month, has again firmed up, with leading factors quoting on the basis of $3.25 per pound in cases and $3.40 per pound for less than case lots.

Latest reports from Japan would indicate that, although distillation has not been completed, the crop of Hokkaido peppermint would be even smaller than early reports indicated. The excessive rains that prevailed almost throughout the entire growing season in north Japan damaged not only the peppermint but seriously affected the quality so that the menthol content of the oil is said to be considerably below normal.

One very bullish report from Japan stated that the Hokkaido crop would amount to about 400,000 kin. With Sambi producing 100,000 kin the total of 500,000 kin is only one-half a normal year's exports which are approximately 800,000 to 900,000 kin. Home consumption is said to be 100,000 kin.

The primary market, therefore, continues very firm, with buying on the part of London interest to cover low spot stocks, lending support to this position.

The New York market, however, continues dull with most of the larger consumers being fairly well covered on future requirements. Stocks in hands of importers and dealers are low but sufficient stocks are afloat to take care of immediate requirements.

It would seem that the future trend of the market here would depend to a great extent upon what demand develops during the next few months.

Acetylsalicylic Acid Down

In an effort to stimulate demand, leading makers of acid acetylsalicylic have reduced prices 5c per pound. The schedule is now from 70c to 75c per pound as to quantity. This represents the first price change in this commodity in many months.

Tartaric Acid Reduced

Under the influence of keen competion the downward movement in tartaric acid has been extended. Domestic makers are offering crystals, granular or powder, in barrels at 20c per pound and in kegs at 20½c per pound. Prices are f. o. b. New York with an advance of ½c per pound for Chicago or St. Louis delivery.

Alcohol Firm

Alcohol distillers are able to point to a freer movement of material to the anti-freeze trade as a result of recent cold snaps. This commodity will therefor enter the new year displaying a firm tone.

Interest at present is centered in the new price schedules for the first quarter of 1933, which are expected to be announced shortly. It is generally believed that no change in the price setup will be witnessed.

Current quotations for the period September 1, to December 31 are as follows: f. o. b. works on the basic formula completely denatured alcohol No. 5 with credit of 1c per gal. on three carlots or more.

C. D. A. 5 in. drum carloads	$0.385
5 to 19 drums	0.445
1 to 4 drums	0.465

Mercury Steady

The mercury market is reported as steady at from $49.00 to $50.00 per flask without any important new developments. Stocks continue moderate as production is at a minimum. The larger mines show no indications of resuming operations. A fair demand is reported from the pharmaceutical trade.

Cod Liver Oil Higher

The spot market for cod liver oil is quite firm at higher levels. Prices now range from $18.75 to $21.00 per barrel as to brand and seller. Firmness is attributed to further seasonal expansion.

The primary market has also been influenced by the improved demand. Shipments to November 19 totaled 92,462 barrels, compared with 76,856 barrels at the same time a year ago.

Newfoundland cod liver oil exports continue to show a better record than last year's. The Newfoundland Trade Review reports that from August 1 to November 4, 1932, shipments of 115,289 Imperial gallons were made as compared with 99,780 gallons for the same period in 1931.

Caffeine Down 15c

With the intention of stimulating sales of caffeine alkaloid leading producers here have reduced prices 15c per pound. Sellers are now quoting from $1.95 to $2.00 per pound as to quantity.

Santonin Up Sharply

A rather sharp advance featured the market for santonin with current spot quotations now being on the basis of from $65.00 to $70.00 per pound.

This followed action taken by leading producers in Germany, England and Russia. Believing that previous declines had gone too far, they got together and raised their prices to a basis of $80.00 per pound. They saw no point in keeping prices down throughout the world in order to maintain their position in the American market. This action was also taken under the assumption that American producers might not be able to supply the demand here, and that eventually they could reenter this market and obtain a share of it on a price basis more satisfactory to them.

Santonin imports into the United States during the first nine months of 1932 amounted to 139 pounds valued at $7,367 of which the United Kingdom supplied 83 pounds ($4,221), Soviet Russia 55 pounds ($3,060), and Japan one pound ($86).

Phenolphthalein Competitive

Due to the quiet demand for phenolphthalein the competitive factor has been more noticeable. Sellers have been forced to reduce prices again with U. S. P. in 100 pound drums selling at 52c per pound. In 5 pound cans, 100 pound lots the price is 60c per pound. Yellow is quoted at 47c.

Glycerin Unchanged

The market for chemically pure glycerin is unchanged in price at 10¼c per pound. Demand from the pharmaceutical field continues about the same as in recent weeks. A noticeable improvement from the anti-freeze is pointed out, however.

Cream of Tartar Price Cut

The past month has seen two reductions in cream of tartar. With demand irregular the keen competition that has resulted in many price reductions continues. The price schedule follows:

Powder or granular: 5 barrels or over	15½c per pound
Less than 5 barrels	15¾c " "

Crystal: one-half cent per lb. advance
Kegs—net 100 lbs. are ½c higher

Prices quoted are f. o. b. New York with the usual advance of ½c per pound for Chicago and St. Louis delivery.

FLAG BRAND

WHITE OILS

Refined by
OELWERKE JULIUS SCHINDLER
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VISCOSITY --- *Our U. S. P. medicinal oils have an unexcelled high viscosity.*

COLD TEST --- *Extremely low cold tests on our technical oils---as low as 40° below zero, Fahrenheit.*

U. S. P. MEDICINAL: Genuine Russian Imported White Oils.
COLD CREAM OILS: All grades for cosmetic purposes.
TECHNICAL OILS: Viscosity range 75-400, for Soap Stock Oils, Textile Oils, White Oils for mineral oil emulsions.

Stocks carried in New York and Brooklyn Warehouses. *Direct shipment from Hamburg to all American ports.*

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Bergamot Oil Lower

Bergamot oil suffered a further decline during the past month. Quotations for natural oil are now on the basis of from $1.75 to $1.95 per pound. Spot sales have been small with no disposition on the part of consumers to commit themselves beyond the limit of actual requirements. Cable advises from Italy to the effect that free trading in Messina will be resumed have also had the tendency to unsettle the market.

A report from Consul Richard B. Haven, Messina, states: "Messina traders confirm the report that the central government has approved a plan authorizing a return to unhampered trading in Bergamot oil during the new season, now approaching, such as existed prior to the creation of the Bergamot Consortium. Under this plan present local stocks would not be dumped on the market so as to impair the sale of the new production."

Continued receipt of strong primary market advices kept the spot market for Bois de Rose in a firm position. It is said that a lack of sufficient demand is the only reason prices have not been advanced again during the past month. Offerings are on the basis of from 95c to $1.10 per pound for Brazillian, with Cayenne at from $1.85 to $2.00 per pound.

Peppermint Oil Holds Firm

No new developments are presented in the peppermint market. Primary market holders are still very firm in their views so that, although the spot market is uninteresting from the standpoint of actual business done, prices in general are quite firm. Natural oil is unchanged at from $1.85 to $1.95 per pound as to quantity, with redistilled U. S. P. at from $2.05 to $2.15 per pound.

Imports of peppermint oil into Canada more than tripled in quantity in 1931 to 30,946 pounds from 9,089 pounds in 1930. The smaller increase in value, from $20,303 to $52,922, reflects reduced prices.

Agar Easier

The agar agar market is easier being influenced by the irregular demand. Prices now range from 52c to 54c per pound for Number 1, with the Number 2 grade at from 45c to 47c per pound. The Japanese Yen exchange rate also tends to keep the primary market soft.

Before the Sino-Japanese troubles, all agar agar supplied to China came from Japan, but since the boycott practically no Japanese shipments of the sort have entered Shanghai. Local Chinese produce dealers at present secure their agar agar supplies from the South Islands. Total imports into China in the first five months of 1932 amounted to 1,956,000 pounds valued at $59,670.

Mexican Vanilla Crop Short

Latest crop estimates on Mexican vanilla beans generally confirm previous reports of a short production. It is said that 100,000 pounds of whole beans will be available from the new crop against a normal production of 150,000 pounds. To this is added a production of about 30,000 pounds of cuts.

Certain factors point out that, although production is undoubtedly off this year, there is an exceptionally heavy carryover which, together with the general decline in demand would at least offset this condition so that there will undoubtedly be available a sufficient supply to meet all demands until such time as a new crop is gathered.

There is also an opinion in the market that Mexican beans are still too high priced. It is noticeable that when comparing the declines in this commodity during the past year, with the declines that took place in the general list of raw materials, this commodity has not shown a condition of deflation comparable with general trends. In January, 1932 the price range for Mexican whole beans was from $3.75 to $4.25 per pound as compared to the current spot quotations of from $3.00 to $4.00 per pound.

The chief factor that is responsible for the current price of Mexican beans is that a small group in the primary market has practical control over the curers and small growers. Invariably too high a price is paid for green beans under the assumption that the consuming markets will absorb them at current price levels. The disparity in the price of Mexican beans and Bourbons is also a factor in this situation. The range between the two has been constantly widening, Bourbons now being offered at from 75c to $1.20 per pound. When quality is considered this range is said to be far too great.

The Bourbon beans do not show any price change during the past month. The situation is entirely governed by the heavy supply of beans available.

Gum Karaya Up Slightly

Number 1 powdered gum karaya has been advanced 1c per pound to the basis of from 11c to 11½c per pound. Stocks are not over large and demand has been up to the standard established during recent trading.

Among the natural botanical derivatives imported from British India gum karaya ranks prominently. It has found increasing use in the United States in recent years as a filler in ice cream, being employed also in the textile and toilet preparation industries. Total imports of this commodity into the United States during the first nine months of 1932 amounted to 2,834,000 pounds valued at $172,000.

Gum Arabic Remains Easy

The gum arabic market seems to be governed by the moderate demand on spot and the heavy stocks available for shipment in the primary market. These factors keep prices at levels that represent the lowest in many years. Amber sorts continue unchanged at from 6¼c to 6½c per pound.

From the office of the commercial attache, Cairo, comes the report that the Egyptian gum trade is said to be faced with one of the most difficult situations ever experienced, stocks on hand totaling 13,000 tons in mid-October, according to dealers, and an estimated carry-over to next year of 10,000 tons. Exports during the first eight months of 1932 amounted to 111 tons for the bleached gum and 11,397 for Kordofan or Hashab arabic, a decrease of 63 tons for the bleached and 3,036 tons for Hashab gum from the corresponding 1931 period. The trade in Talh gum, the least expensive grade, experienced an improvement in August with a reduction in freight rates and royalty. Exports during January-August, 1932, increased to 766 tons from 740 tons in the similar period of 1931.

It can readily be seen, therefore, that with the new collection season at hand supplies of gum will be so large that only an exceptional buying movement will make it possible for prices to react to a basis that will show a margin of profit to producers and importers.

Lavender Oil Dull

There are no indications of expansion in the market for oil lavender. Both offerings and demand are light, with prices being governed by size and quantity of order. The current range is from $1.45 to $1.65 per pound.

It is reported that less lavender was picked in France in the late harvest than in the preceding season. Only two-thirds of the crop is said to have been harvested. From 160 to 170 kilos of flowers were required to produce one kilo of oil as compared with 130 to 140 kilos in former years.

The commercial cultivation of lavender in Australia and distillation of the oil is meeting with success according to unofficial reports. It is further stated that the oil is being exported to England where it commands top prices.

Anise Oil Quiet

Oil anise is quiet with consumer interest being confirmed to actual requirements. Fundamentally, however, the market is in a firm position in view of short supplies and slightly higher prices for shipment. Quotations remain unchanged on the basis of from 30c to 32c per pound for technical oil, and 32c to 34c per pound for U. S. P.

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Gum Benzoin Quiet

With demand for gum benzoin reported as slow, competition between sellers has noticeably increased. Quotations for Siam gum have been shaded to the basis of from $1.00 to $1.25 per pound. Sumatra remains unchanged at from 18c to 20c per pound.

Camphor Market Stronger

An improvement in demand for camphor and a stronger market abroad, have strengthened the situation in this commodity. Quotations are being repeated in all respects.

According to unconfirmed press reports, the Soviet Government has decided to erect a factory for the production of natural camphor at Adsharistan on the Black Sea.

Gum Gamboge Demand Slight

With demand for gum gamboge reported as disappointing, a weaker tone has developed in this commodity. Competition between sellers has increased resulting in a decline to the basis of from 40c to 50c per pound. Powdered gum is quoted at from 55c to 60c per pound.

Japan Wax Steady

Quotations for Japan wax are generally maintained at from 6c to 7c per pound although the market leans toward the easy side with the possibility of shading on firm business. Consumers in general show little interest.

Gum Tragacanth Competitive

Competition in gum tragacanth is keen. Demand from the textile trades has eased off with the result that local importers appear rather anxious to move material. The only price change noted, however, is an adjustment of 5c per pound in the price of No. 1, putting this grade on the basis of from 75c to 80c per pound. The shipment market abroad is easier as a result of exchange fluctuations.

Carnauba Wax Dull

The current spot demand for carnauba wax is not sufficient to lend any great support to the market but in view of the position taken by the Brazilian shippers most importers are adhering to current quotations. Moderate sales of No. 1 are being made on the basis of from 22c to 23c per pound.

Primary market offerings continue light with shippers being very firm in their views as to values. This is the time of year when new crop begins to arrive in Brazil but it is said to be too early to get definite ideas regarding the movement.

Essential Oil Imports Up

Essential oil imports into United States during the first nine months of 1932, increased in total quantity nine per cent. and declined in aggregate value of about 27 per cent., against the similar 1931 period, as may be observed in the following table:

	(First Nine Months) 1931 Pounds	1932 Pounds
Cassia and cinnamon	228,000	234,000
Geranium	101,600	104,600
Otto of rose	1,026	909
Bergamot	63,400	35,600
Citronella & lemongrass	669,700	1,024,000
Lavender & spike lavender	201,000	130,300
Lemon	293,200	135,900
Orange	97,900	91,700
Sandalwood	7,600	3,800
All other	1,985,200	2,196,100
Total	3,648,626	3,956,909

Vetiver Oil in Louisiana

According to a Department of Commerce report, vetiver is now being grown in Louisiana, the cultivation embracing about 60 acres. The root yield of the present crop is expected by the growers to amount to approximately 300,000 pounds. It is understood that most of the root will be offered for sale to home consumers for scenting garments and the remainder distilled locally for vetiver oil.

Chamomile Flowers Quiet

Hungarian chamomile flowers are moving quietly at slightly lower prices. Sellers are naming from 13½c per pound to 15c as to quality. It is the small demand in this market that has kept prices low as it is reported that in the primary market, flowers are selling at prices above the established level here.

Horehound Firmer

Limited offerings and a little more inquiry for horehound from the consuming trade has resulted in a firm market for this commodity. Recent quotations brought out prices ranging from 7c to 8c per pound.

Valerian Strengthens

Belgian valerian root is one of the botanical items that has been underproduced this year due to low prevailing prices. With only limited quantities available for shipment the primary market has taken on a much firmer aspect. In view of this development spot prices have been advanced 1c per pound to from 11c to 12c. Current prices are said to be still very close to replacement costs, and, although trading is quiet the article is being watched very closely.

Wahoo Bark Up

Small supplies of wahoo root bark both in the primary market and on spot is responsible for an advance of 2c per pound. From 28c to 30c a pound as to quantity is being asked.

Glandular Product Prices Changed

Due to a comparatively small demand, ovarian substance, whole, in one pound lots has been reduced to $12.50. Ovarian residue, one pound lots has been reduced to $10.00.

Contrary to the general trend in glandular products is a sharp rise in the price of pituitary substance, whole in one pound lots now selling at $36.50. Pituitary substance, anterior lobe in one pound lots has advanced to $31.00.

This tendency is due to the fact that these glands being very small it takes a considerable quantity to make one pound of pituitary substance. With the meat market in its present condition there does not seem to be a sufficient quantity of glands to satisfy the demand.

Orange Oil Lower

The feature of the essential oil market is the sharp decline in price for domestic orange oil. Due to competitive conditions that have prevailed over the past month, and the fact that orange oil is now being obtained from an ever increasing number of sources, leading distributers representing the Exchange producers announced a reduction that established the market at the lowest level for many years. American cold pressed oil is now 95c to $1.15 per pound with distilled at from 70c to 80c per pound.

Italian orange oil is also lower at from $1.00 to $1.25 per pound as to seller and quantity. It is said that the inside figure could be shaded in some quarters. Sweet West Indian oil is $1.05 to $1.30 per pound, orange bitter in 25 pound tins at $1.10 to $1.50.

Marjoram Firmer

With higher prices prevailing in the primary market for marjoram, the spot position has taken on a much firmer tone. French material is quoted higher at from 13c to 15c per pound, with the German variety also higher at from 16c to 17c.

Papain Sharply Lower

With lower prices prevailing abroad for papain the market here has declined sharply. Crude material is offered at from $1.40 to $1.45 per pound and pure, powdered at from $1.50 to $1.55 per pound.

Senega Root Weakens

The current demand for senega root has not been sufficient to maintain levels reached during the advance of two months ago when reports first reached this market regarding short production. The market has taken an easier tone at from 37c to 42c per pound with reports that some holders would undoubtedly make concessions from these prices on a firm order.

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Saffron Up Sharply

The spot market for Spanish saffron advanced sharply during the past month to the basis of from $10.75 to $11.00 per pound. High replacement costs have continued to exert a steady influence after the advance.

The strong tendency in Saffron is attributed to the poor quality of material available abroad. The high percentage of yellow styles makes a great deal of the crop unsuitable for export.

Digitalis Demand Up

As a result of an improved demand for digitalis leaves and a rather poorly supplied spot market, dealers have advanced prices to the basis of from 13c to 14c per pound.

The Department of Commerce reports that since 1928, the cultivation of digitalis has been extended to various parts of Kashmir, India, following experiments by the State Forest Department on a commercial scale. With continued progress, it is thought that the annual local demand for this product amounting to about five tons will be met entirely by domestic supplies.

Rochelle Salts Down

Leading producers of rochelle salt have further reduced prices by 1c per pound. U. S. P. powder or crystal in barrels is now offered at 12½c per pound. Prices f. o. b. New York.

Seidlitz Mixture Lower

Seidlitz mixture is ¾c per pound lower in the spot market at 10¾c per pound in barrels. Kegs 100 pounds are ½c higher. Prices f. o. b. New York.

Ipecac Root Dull

Ipecac root has been passing through a prolonged dull market. Owing to limited stocks on spot and the uncertainty of the replacement market prices are being maintained. Nicaraguan root is offered at from 65c to 70c per pound.

Lycopodium Turns Easy

Lycopodium has taken an easier turn with prices at from 21c to 23c per pound. Larger offerings have induced the decline. It is said the undertone continues unsettled with the possibility of doing better than the above quoted prices on firm business.

Calendula Petals Higher

With only small stocks of calendula petals available prices have been advanced on spot to the basis of from 45c to 48c per pound. A moderate amount of business has been placed at these figures.

Psyllium Seed Lower

A further decline is noted in psyllium seed with the French black being offered on spot at from 10c to 12½c per pound as to quantity and quality, and still lower prices are quoted for shipment. The blond seed is also fractionally lower at from 5c to 6½c per pound.

The general tendency of this material is to seek a price level in line with available supplies. French production this year was exceptionally heavy so that the article is offered at very low prices for shipment. As far as the blond seed is concerned there does not seem to be any limit to the amount that can be collected. It is generally reported, however, that the market here, taking general conditions into consideration, has done well in absorbing the quantity of seed available.

Lime Oil Trend Mixed

Lime oil is in a rather peculiar position in that most of the dealers have advanced prices on distilled oil to a basis of from $6.75 to $7.25 per pound, although there are factors in the market that continue to quote below these figures. The advance was attributed to the stronger primary market caused by large buying on the part of London interests who entered the market to replace depleted stocks.

Celery Oil Up

Celery oil has been advanced sharply during the past month with a very wide range of prices prevailing according to individual views of sellers and quantity. The spot range is from $8.50 to $10 per pound. Raw material shortage is mainly responsible it being said that one-third less seed was produced this year. The usual seasonal attention is being given this commodity.

Wormwood Oil Firm

Domestic wormwood oil is firm at from $2.25 to $2.75 per pound, continuing the former price range. Although small lot business featured the market, past declines are said to have carried this commodity to levels inconsistent with cost to produce and to replace.

Pineneedle Oil Higher

With only limited supplies of Siberian pine needle oil available on spot, and uncertainty of getting replacements, most dealers are reluctant to sell very freely. The spot market is strong and higher at from 80c to $1.00 per pound.

Menthol Imports Up

Imports of natural menthol into the United States during the first nine months of 1932 increased to 302,138 pounds, worth $654,711 from 228,024 pounds valued at $623,933, for the corresponding period of 1931.

Essential Oil Changes

Italian lemon oil declined during the past month to the basis of from 82c to $1.10 per pound with the possibility of shading these official quotations on a sizable order. The California oil is quoted at from 75c to 80c per pound.

Cedarleaf oil is lower at from 65c to 70c per pound. Dealers report the market as being very quiet with only a routine movement, with tendency to shade quotations on firm orders.

Oil croton continues in the weak tendency established some time back. Prices have again been lowered to the basis of from $2.40 to $2.65 per pound. Large buyers are entirely lacking and the small consumers are satisfied to follow a hand-to-mouth policy.

With only a moderate demand current for citronella oil the spot market has taken a slightly easier turn. Prices on Ceylon oil have been reduced 1c per pound with this item now quoted at from 34c to 35c per pound in drums.

As a result of recent fluctuations in exchange the market for clove oil has taken on a slightly easier aspect. Prices, however, remain unchanged at from 80c to 85c per pound for U. S. P. quality. Small lot orders only are reaching this market.

Prices ranged lower on oil petit grain South American variety. Consuming interest was confined to small lots only and dealers reported such sales at from 90c to 95c per pound as to quality.

Sassafras artificial is a shade easier with recent sales establishing the market at from 16c to 18c per pound as to quantity. The natural U. S. P. is also lower at from 70c to 80c per pound.

Sales of American tansy have been made at lower prices, the range being from $1.80 to $1.90 per pound. Demand has been along very moderate lines.

As a result of an increase in selling pressure, sellers of methyl anthranilate are offering spot goods at from $2.10 to $2.20 per pound.

Although only a moderate volume of business is passing in oil wormseed, sellers have sustained the market at price basis reached during the recent decline. From $1.90 to $2.20 is generally asked. The statistical position is strong due to underproduction this year.

With a restricted demand for eucalyptus oil the spot market has eased off 1c per pound to the basis of from 20c to 21c per pound in drums.

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Patents

UNITED STATES PATENTS

Thymol

Thymol is produced by isomerizing propyl derivatives of meta-cresol isomeric with thymol. This is done by heating isomeric derivatives to above 330° to 400° C. and subjecting the isomerization product to fractional distillation. Rheinicshe Kampfer Fabrik G. m. b. H., Duesseldorf-Oberkassel, Germany. U.S.P. No. 1,876,435, filed September 20, 1928.

Refined Vegetable Oils for Injection

Process for production of highly refined vegetable oils used as solvents for injection medicines. Process is removing greater proportion of glycerin from oil as well as free fatty acids. Free acid remaining in oil is transformed into an ester by combination with an aromatic alcohol. Heisaku Hatakeyama and Hotori Watanabe, Kobe, Japan. U. S. P. No. 1,867,665, filed September 7, 1929.

Purifying Insulin

Process of purifying insulin consists in treating anhydrous insulin-bearing material with ammonia in substantially anhydrous liquid form. Solution, is separated from residue and ammonia removed from solution. Morris S. Kharasch. U.S.P. No. 1,866,569, filed August 22, 1931.

Colloidal Iodine

Finely divided or colloidal iodine is made by subjecting crystalline iodine to 1% solution of sodium hydroxide until straw colored liquid results. Liquid is cooled and 10 grams of gum arabic added for each pound of iodine. Strong hydrochloric acid is added rapidly to precipitate iodine as brick red precipitate. Coarse crystals are filtered, filtrate allowed to stand and concentrate. Supernatant liquor is drawn off to remove sodium chloride. Merck & Co., Rahway, N. J. U. S. P. No. 1,866,923, filed November 21, 1925.

Vitamins

Vitamins B and G are extracted from rice polishings by subjecting material to mixture of 25% by volume of alcohol with water containing 0.5% acetic acid. Solid and liquid are separated. Alcohol and water are distilled from liquid under reduced pressure below 70° C. Glacial acetic acid is added to residue to dissolve vitamins. Mass is diluted with anhydrous acetone to form mixed solvent in which vitamin is soluble and impurity insoluble. Impurity is separated and filtrate distilled to remove acetic acid and acetone under reduced pressure at not over 70° C. An acidified residue containing vitamins is formed; water is added and water and acid simultaneously volatilized from mass to form stable, slightly-acidified vitamin extract. Barnett Sure, Fayetteville, Ark. U. S. P. No. 1,869,721, filed January 15, 1930.

Sedatives and Hypnotics

New sedatives, hypnotics and analgesics are barbituric acid derivatives containing aliphatic, phenyl or delta-2-cyclopentene radicles and are made from ethyl-delta-2-cyclopentene-malonic ester and urea heated to 110° to 115° C. for 3 to 4 hours in autoclave with solution of sodium in alcohol. Alcohol is evaporated and residue decomposed with hydrochloric acid. 5:5-ethyl-delta-2-cyclo-pentene-barbituric acid is obtained in this manner. Other examples are given for making allyl, propyl, phenyl, butyl, and isopropyl derivatives. Compagnie de Bethune, Bully-les-Mines France. U. S. P. No. 1,869,666, filed January 31, 1930.

Mouth Washes and Dentifrices

Principal feature of new dentifrices is they contain salt of sulfonated castor oil soluble in water. Five parts of sulfonated castor oil salt may be added to 95 parts of tooth paste composition. Or a mixture may be made containing 96 parts turkey red oil (50% fat content). 2 parts peppermint oil and 2 parts aniseed oil. Not only sulfonated fats and fatty acids but ammonium, sodium and potassium salts may also be used. Addition of sulfonated products increases dissolving action of dentifrice on tartar film and prevents formation. Society of Chemical Industry in Basle, Switzerland. U. S. P. No. 1,869,406, filed October 7, 1926.

Syphilis Drugs

First patent is for preparation of stable aqueous solutions of new syphilis drugs, which are ethylamino salts of 3-acetylamino-4-hydroxybenzenearsonic acid. Drugs dissolve readily in 1.5 to 2.0 times their weight of water. Suitable stabilizing agent is sodium sulfite. Second patent is for manufacture of these drugs, which crystallize well, are soluble in water, and for which body has better tolerance than the usual drugs of this type, so that they can be used in treating syphilitic children. Arsonic acid is simply combined with hydroxyethylamine. Salts formed need not be isolated but solutions obtained may be used directly. Winthrop Chemical Co., New York. U. S. P. No. 1,859,683 and 1,859,684, filed January 4, 1930.

Blood Disease Remedies

These are unsymmetrical arseno-benzene compounds capable of forming soluble alkali compounds. They are light yellow powdered, readily soluble in dilute, aqueous alkali hydroxide and carbonates to give clear yellow solutions. They are oxidized in air and must be preserved in ampules filled with inert gases, for example carbon dioxide. They are used in diseases caused by trypansomes or spirochoetes. They are prepared by reducing mixture of appropriate arsenic acids in aqueous solutions with or without pyridine or hydrochloric acid to insure preservation of homogenous solution at room or lower temperature. Hypophosphorus acid is reducing agent. Unsymmetrical arseno compounds, containing groups incapable of forming stable alkali salts, are sometimes used. Thus arsanilic acid is reduced with sodium formaldehyde-sulfoxylate. Parke Davis & Co., Detroit. U. S. P. No. 1,867,231, filed April 19, 1926.

Ephedrine Salts

Process for resolving racemic mixture of ephedrine and homologues as well as mandelic acid and derivatives. New ephedrine salts are formed by combination with mandelic acid. So-called ephedrine mandelates are formed. Such salts, optically active with components having same sign (same direction of light refraction) are less soluble in concentrated alcohol than those salts formed from components of opposite signs. This is principle on which resolution of racemic ephedrine and racemic mendelic acid is based. Eli Lilly and Co., Indianapolis. U. S. P. No. 1,867,274, filed June 20, 1929.

Contrast Medium

New contrast medium is di-iodochelidamic acid. This product is made from 18.3 grams of chelidamic acid and 37 grams of potassium hydroxide dissolved in 750 cc. of water. To solution heated to boiling temperature is added pulverized iodine until no more dissolves. By adding hydrochloric acid drop by drop, solution is rendered acid under continuous boiling. Solution is then made alkaline by caustic alkali and then acid again, alkalinization and acidification being repeated 5 times. Acid solution is filtered hot and filtrate decolorized with sulfur dioxide. On cooling, di-iodochelidamic acid separates as long, white needles, finally to felt-like mass. Product is twice crystallized from water to purify. Disodium salt is readily soluble in water. Yield is 85%. Schering-Kahlbaum A. G., Berlin, Germany. U. S. P. No. 1,869,672, filed September 28, 1931.

Iodomethylsulfonic Acid Drugs

New drugs are alkali salts of iodomethylsulfonic acid and made by heating mixture of iodoform and alkali sulfite. One mole of iodoform and two moles of crystalline sodium sulfite are mixed with water containing alcohol and finely pulverized copper. Mixture is heated for 20 hours under refluxing at 120° to 140° C. All iodoform is dissolved and no sodium sulfite remains. Product is neutralized with alkali hydroxides or carbonates and solution evaporated to dryness. Sodium

iodide is extracted with acetone. Sodium salt of iodomethylsulfonic acid is recrystallized from alcohol as white needles or scales, readily soluble in water, little soluble in cold alcohol. It contains 51.7 to 52.0% iodine. Schering-Kahlbaum A.G., Berlin, Germany. U. S. P. No. 1,867,793, filed May 28, 1931.

BRITISH PATENTS

Toxin Medium

Process of making nutrient medium suitable for production of gonococcus toxin, has as starting point single or progressive aqueous extracts of human placenta. These are prepared in proportion of one part of extract to 1.5 parts of placenta. They are adjusted to proper osmotic pressure by addition of 0.1% sodium chloride, and to proper pH coefficient (7.2 to 7.4). Schering-Kahlbaum A. G., Berlin, Germany. B. P. No. 377, 150, filed May 13, 1932.

Hormones

Placenta, amniotic fluid, or, preferably, urine of pregnant animals is extracted with organic solvent and material extracted is subjected repeatedly to treatment with non-miscible organic solvents in presence of aqueous alkalies. For example, residue, obtained by evaporation of solvent in previous treatment, is extracted with aqueous alkali, insoluble residue discarded, and organic solvent added to extract. Final solvent extract is concentrated, giving crystalline hormone, alpha-ovarian follicular hormone, M. P. (corrected) 249° C., molecular weight 274, iodine value 93 to 97, molecular weight of acetyl derivative 356, probable formula $C_{18}H_{22}(OH)_2$, having activity of 3000 to 4000 rat units per mgm. Alkaline extracts on acidification give crystalline beta-hormone, M. P. 282° C., molecular weight 294, iodine value 85 to 88, molecular weight of acetyl derivative 410, probable formula $C_{18}H_{21}(OH)_3$, having an activity of 6000 rat units per mgm. B. P. No. 377,991, filed February 27, 1931.

Radioactive Preparations

Flexible container (rubber), cut to shape and provided with hose, is filled with adsorbent loaded with any desirable quantity of emanation by connecting hose to suitable source. Surface of container may be provided with metal foil at suitable points. Deutsche Gasgluehlicht Auer G. m. b. H. B. P. No. 379,208, filed January 15, 1932.

Menthol Derivatives

Three molecules of menthol or an isomeride is combined with phosphoric acid, preferably in an organic solvent, such as light petrolateum, or in molten condition. If aqueous solution of phosphoric acid is used, water must be expelled. Compounds from racemic menthol, M. P. 74° C., laevo-menthol, M. P. 71° C., and racemic neomenthol, M. P. 86° C. and racemic isomenthol, M. P. 42° C. are described. Howards & Sons Ltd., J. W. Blagden and W. E. Huggett. B. P. No. 374,893, filed March 17, 1931.

Camphor Derivative

New stimulant for heart and respiratory center is allo-para-keto-camphor, M. P. 200° to 202° C., index of light refraction +70° to +85°. It is prepared by oxidation of parahydroxycamphor with chromium trioxide or sodium dichromate and sulfuric acid below 60° C. At 100° C., para-keto-camphor, M. P. 209° to 210° C., is obtained. K. Tamura, G. Kihara, Y. Asahina and M. Ishidate. B. P. No. 375,510, filed May 28, 1931.

Therapeutic Compound From Urea

Process for therapeutic agent from urea which acts on circulation and heart action. Urea previously freed from phosphates is treated with uranyl acetate. Precipitate is decomposed with diammonium phosphate. After salts are removed, remaining solution is purified by adsorption in kaolin or colloidal alumina. Adsorbent is washed with solution of diammonium phosphate. Dr. E. R. Frey, Berlin-Dahlem and Dr. Heinrich Kraut, Dortmund, Germany. G. P. No. 518,292, filed February 24, 1926.

Vaccine Activity

Patent concerned with conservation of activity of vaccine in fatty and antiseptic medium. Sterilized fatty substance (anhydrous lanolin) is mixed with antiseptic and added to vaccine. P. Anselm. B. P. No. 378,198, filed July 31, 1931.

Bath Preparations

These consist of mixture of essential oils with natural or synthetic aromatic oils to which is added turkey red oil together with glycerin, ethyl alcohol and water. C. L. Herrmann and L. G. Stone. B. P. No. 377,623, filed April 1, 1932.

Disinfectants and Dentifrices

Thiocyanates are protected from absorbing water by mixing with anhydrous gypsum or coating with gum tragacanth, resins, gelatin, etc. They are compounded with soild, water-soluble acids, for example tartaric acid or acid salts, for example borax, carbonates, etc., so that in presence of water (during use) free hydrothiocyanic acid is liberated. C. Weidner. B. P. No. 376,604, filed November 7, 1931.

GERMAN PATENTS

Esters of Lactic Acid

Esters of lactic acid are made by action of alcohols on magnesium lactate in presence of acids at high temperature. Schering-Kahlbaum A. G., Berlin, Germany. G. P. No. 518,388, filed January 23, 1926.

Liver Preparations

Process for preparation of purified and highly therapeutically active liver solutions. Liver extracts are subjected to dialysis for precipitation of albumen. After precipitated albumen is removed, residual albumen is adsorbed in kaolin or alumina. Dr. Heinrich Kraut, Dortmund, Germany. G. P. No. 518,024, filed January 5, 1928.

Extracting Drugs

Oxyanthraquinone derivatives contained in free state in various drugs, are recovered by extraction. Dry drugs are treated with moist, organic solvents, which do not mix unlimitedly with water. Solvents are ether, chloroform, trichloroethylene, etc. Dr. Walther Straub, Muenchen, Germany. G. P. No. 518,215, filed February 6, 1929.

Double Lactates

Double lactates, containing lithium or magnesium are important therapeutic agents. Sodium-lithium lactate is made by mixing equivalent proportions of lithium lactate to sodium lactate and drying mass. Or lactic acid is mixed with equivalent proportions of lithia and soda, preferably as carbonates, and under certain conditions with excess of lithium carbonate. Mass is dried. Sodium-magnesium lactate is made by mixing magnesium lactate with syrupy sodium lactate, either in like proportions or with excess of magnesium lactate. Mixture is dried. Dr. Ernst Ruppin, Berlin-Grunewald, Germany. G. P. No. 537,697, filed October 12, 1926.

Antiseptic

Antiseptic is obtained by causing iodine trichloride to react with mustard oil. Schering-Kahlbaum A. G., Berlin, Germany. G. P. No. 536,080, filed April 18, 1929.

Drugs from Agaricinic Acid

Agaricinic acid is used as starting point in therapeutic compounds by causing it to react with theophyllin or caffeine or both bases. Method is common one for preparation of salts. C. F. Boehringer & Soehne, G. m. b. H., Mannheim-Waldhof, Germany. G. P. No. 539,101, filed October 11, 1928.

Pure Ergot Preparation

Process for purified ergot preparation, freed from inert materials and obtained from mixture recovered by extraction of ergot with organic solvents. Residue obtained after extracting solvent has been driven off, is treated directly with ethers containing organic acids. Precipitate, containing alkaloidal salts is worked up accordingly to usual methods of alkaloid according to usual methods of alkaloid chemistry. Gehe & Co., A. G., Dresden, Germany. G. P. No. 539,163, filed March 19, 1925.

(Continued on page 582)

Abstracts

Acetylsalicylic Acid Tablets

These tablets are prepared in following manner in easily-distintegrating form. Two hundred forty grams each of powdered arrowroot starch and heavy magnesium oxide are mixed and screened. Then mixture is moistened with solution of 10 grams coca butter in 400 cc. ether and screened again while moist. Then 2,000 grams of acetylsalicylic acid are added, carefully mixed and granulated with acetone (about 30 grams for every 250 grams of powder). After drying and heating for 2 hours at 50° C., 2,530 grams of granulate are mixed with 30 grams of pulverized agar-agar, 160 grams of arrowroot starch and 80 grams of pulverized talc. 4,000 tablets are made from this mass, each weighing 0.7 gram and containing 0.5 gram of acetylsalicylic acid. Otto Pedersen. Farm. Tidende, volume 41, pages 435ff.

Boroglycerin

This is glycerinum acidi borici with 50% boric acid content. When product is made by heating 310 parts of pulverized boric acid and 460 parts of glycerin to 150° C., glycerine borate is formed, but if temperature is raised slightly above 150° C., brownish-yellow product is obtained. This is avoided by new process in which heating is carried out at 105° C. under pressure of 12 mm. Perfectly water-white product is obtained in one hour. Instead of calculated 460 parts of glycerin, 690 parts are used and heated with boric acid in smooth reaction, until loss of 270 parts is obtained. Dissolved product is made up to 1,000 parts with glycerin. Another method consists in heating 960 parts glycerin in shallow porcelain dish directly heated on an asbestos plate to 120° C. Then 310 parts of boric acid are added and solution boils at 124° C. Formation of ester is complete in 4 hours, when temperature reaches 140°C. and weight of solution is 1,000 units. Milne and Todd. Pharm. Journal, volume 128, page 2,566, 1932, and Lothian, Pharm. Journal, volume 128, number 3,570, 1932.

Benzoic Acid in Benzoin

About 2 grams of comminuted benzoin dried at about 50° C. are spread thinly on watch-glass and weighed. Watch-glass has diameter of 7 cm. and edges must be smoothly ground. Layer of benzoin must not be nearer than 7 to 8 mm. to edge. Piece of filter paper, pierced with fine needle, is carefully placed over sample and second, ground watch-glass is placed on top. Both are accurately weighed. Benzoin is slowly sublimed (30 to 45 minutes) over small flame. After cooling, weight of filter paper is determined to establish increase in weight; also that in upper watch glass. A content of 28.75% of benzoic acid in benzoin has been established by this method.

Adulterated Rose Oil

Otto of rose is adulterated with citronellol, which has replaced geraniol for this purpose. It is essential to determine this ingredient in rose oil as an excess over normal is certain evidence of adulteration. Citronellol does not upset physical constants of rose oil as much as geraniol. E. J. Parry, Perfumery and Essential Oil Review.

New Essential Oil

New essential oil has been obtained from leaves of sciadopitys verticillata, a Japanese plant. Dextro-alpha-pinene, alpha-podocarpene, dextro-podocarpene and a diterpene, $C_{22}H_{32}$, melting at 111° to 112° C., have been isolated. Essential oil obtained from twigs was found to contain dextro-alpha-pinene, cedrene and cedrol. From wood oil were isolated cedrol, cedrene and an oxygenated substance of formula $C_{20}H_{23}O$, melting at 133° C. S. and Z. Kawamura, Bulletin Imperial Forestry Experimental Station, Tokyo, volume 93, page 31.

Fatty Oils for Perfumes

Study has been made of fatty oils as raw materials in manufacture of perfumes. Oils include coconut oil, castor oil. Various aldehydes valuable for perfume purposes are obtained from coconut oil fatty acids. Alcohols are also obtained. Castor oil is used to make undecalactone, nonyl alcohol, oenanthol, methyl heptine-carbonate, methyl octine-carbonate, jasmine-aldehyde, etc. Dr. I. Herold. Riechstoffindustrie, 1932, pages 185 to 191.

Musk and Cibet Perfumes

Ozonization of cibetone is studied and it is concluded that this compound must be polymethylene ring ketone. Muskone is determined to be beta-methyl-cyclopentadecanone. This substance is made synthetically and claimed to be only substance so far prepared in laboratory that accurately resembles natural muskone. Addition of methyl group reduces intensity of odor. Great usefulness of artificial muskone is due to fact it rounds out and completes odor of various perfumes. Riechstoff-Industrie, 1932, pages 129 to 131.

Alkaloid in Coca Preparations

Tincture, fluid extract and thick extract examined. Comparative tests were made on coca leaves of various origin, as well as of methods used in preparing products. Heating solvent in course of investigation or of making extract, gives considerably lower values. This loss must not be assigned to volatility of product. Coca leaves of definite origin should be used, since various commercial grades differ markedly in content of active principle. Lowest content is 0.7%, for 1:5 tinctures 1.5% and for tinctures 1:10, 0.07 to 0.08%, when Java leaves are used. In case of fluid extracts, only 0.5 to 0.6% content of active principle is required. A. Goris and A. Chalmeta. Bulletin Sciences Pharmacol., volume 39, pages 148 to 156, 1932.

Irradiation of Alkaloid Solutions

Investigation was made to determine loss of activity in alkaloidal solutions and pharmaceutical tinctures by radiation with sunlight and ultra-violet light. Loss of activity or active principle in percentage on original content was determined after one year exposure to sunlight and 96 hours exposure to ultra-violet. Following results were obtained. Tincture of cantharides 19.6 and 34.8%; cantharidin 16.6% (ultra violet); tincture of quinine 15.9 and 36.3%; tincture of quinine compound 28.5 and 71.4%; quinine plus quinine hydrochloride in equal proportions 61.5% (with ultra-violet); tincture of colchicum (half year under sunlight) zero and zero respectively; colchinin 7.28% (ultra-violet); tincture of ipecacuana (after half year) 20.9% and 68%; emetin 85.5% (ultra-violet); morphine 55.3% (ultra-violet); tincture of strophanthus 4.8 and 22.0%; tincture of strychnine 38.1 and 85.6%. C. A. Rojahn and Hans Herzog. Pharmazeutische Zentralhalle, volume 73, pages 401 to 410.

Antiseptic Power of Iodine

Antiseptic powers of 5% tincture of iodine were determined and compared with other antiseptics. Tincture of iodine is amongst most powerful antiseptics able to kill spore-forming bacteria in an albuminous medium in very short time up to 30 minutes. Following preparations are used as abortive wound antiseptics in addition to 5 and 10% tinctures of iodine:—solution Lugoli fortior, rivanol 0.1%, superol 0.5%, trypaflavin 1%, tincture of picric acid 5%, silver nitrate 2%. Somewhat less suitable are mercuric chloride 0.1%, mercurochrome 5%, chloramine 0.5%. Unsuitable are carbolic acid 5%, Dakin's solution, hydrogen peroxide, alcohol, and tannin solution. B. A. G. Veraart and Joh. B. Drenth. Nederl. Tidjdschr. Geneeskunde, volume 76, 4096-4116, 1932.

Calcium Gluconate Solubility

Solubility of calcium gluconate is determined in presence of sodium dihydrogen phosphate and arsenic trioxide at 20° C. Concentrated solution contains 7.26% calcium gluconate with 41.62% sodium dihydrogen phosphate present. In this case compound is formed in proportion of 1 to 1 and appears to be double compound. In presence of arsenic trioxide concentrated solution contains 9.29% of gluconate with 5% arsenic trioxide present. This proportion of arsenic trioxide is too high for safety. F. de Carli, Atti R. Accad. Lincei, volume 15, pages 579 to 583, 1932.

Rhamnus Bark Derivatives

Investigation was concerned with determination of relation between physiological activity and content of anthraquinone derivatives of bark of rhamnus purshiana and of extracts obtained therefrom. Determination of anthraquinone derivatives (emodins) in plants and plant extracts is also discussed. Following method is recommended. One hundred grams of sample are dried at 100° C. for one hour, and extracted with ether for 30 minutes. Extract is evaporated, residue dissolved in 6.5 cc. of 0.067-normal sodium biborate, and 3.5 cc. of tenth-normal hydrochloric acid are added. (Ph 8.5). Solution is extracted with ether, and after evaporation of ether, residue is dissolved in 10 cc. of aqueous ammonia. Content of emodin-A is determined by extinction method with nickel sulfate solution. Emodin-B is determined by extracting solution in ammonia with ether, dissolving residue in sodium biborate-hydrochloric acid, and repeating procedure. Emodin-C is determined by extracting residue from original ether extraction with 4-normal hydrochloric acid, extracting solution with ether, and proceding as before. Details are given of emodin contents of extracts of cascara prepared in various ways, and of quantities retained by residues. Tests were made with mice. They showed that physiological action of such extracts is not due to emodin present. Fresh bark is extremely active, but active material has not been isolated. J. D. van der Graaf, Pharm. Weekklad, 1932, volume 69, pages 753 to 768.

Saffron Analysis

One gram of saffron was extracted with 100 cc. of water in 10 cc. portions. Amount of extract was 59.5 to 60.5% based on weight of original material, calculated to dry weight. When lower figures are obtained, indications are that saffron has been adulterated with extracted saffron or other material. High values are due to sugar or honey, which may be indentified by copper-reducing power, before and after inversion. A. Bonis. Ann. Falsif. 1932, volume 25, pages 268 to 271.

Separating Quinine and Euquinine

Separation of quinine and euquinine depends on fact that salts of latter are precipitated from their solution as free base by sodium acetate. Euquinine is soluble in water, insoluble in benzol. S. Jelgasin. Bull. Wiss. Che. Pharm. Forsch. Inst. Russia. 1931, 301-3.

Sediment in Tincture of Ipecac

Copious sediment formed after preparation of tincture, which lasts for long time, consists essentially of albuminous substances. These do not, however, belong to class of substances soluble in dilute alcohol, but they are maintained in solution for period of time by lyotropic substances derived from drug. After tincture is aged and immediately after dilution of solution as well, these substances are precipitated. J. J. L. Zwikker. Pharmac. Weeklad, volume 69, pages 874 to 879, 1932.

Reactions on Cherry Laurel Water

Pecker's reaction with cherry laurel water is due to presence of copper, found in all cherry laurel preparations. Certain copper-free samples, after contact with tin, also give reaction, but presence of tin in normal samples is accidental. F. Morvillez and Defossez. Journal de Pharmacie et de Chimie, 1932, series viii, volume 16, pages 27 to 28.

Copper in Cherry Laurel Water

Reactions, that indicate presence of reducing substance in cherry laurel water, that is Pecker's (ammonium molybdate-sulfuric acid) and Meillere's (nitromolybdate-sulfuric acid) reactions, are due solely to presence of cuprocyanic acid formed from hydrocyanic and cuprous cyanide derived from copper vessels used in distillation. Soluble tin compounds are not formed by action of water on tin. Methods for detection of hydrocyanic acid and tin are described. J. Golse and J. Hugot. Journal de Pharmacie et de Chimie, 1932, volume 16, series viii, pages 20 to 26.

Analysis of Essential Oils

Hydroxylamine method for determination of aldehydes and ketones in essential oils is discussed. Method of determination of CO group by boiling alcoholic hydroxylamine-potassium hydroxide is modified and is then accurate for aldehydes and ketones, both pure and in essential oils, and for keto-acids. Other substances commonly present in essential oils do not affect result, except coumarin, which shows apparent ketone content of 20 to 50%. Term, "carbonyl content" is suggested for number of mgm. of potassium hydroxide, which is equivalent to hydroxylamine hydrochloride required to oximate aldehyde or ketone in one gram of sample. For pure substance this is 56.108 times number of CO groups per molecule-molecular weight. R. C. Stillman and R. M. Reed Perfumery & Essential Oil Record, 1932, volume 23, pages 278 to 286.

Titrating Amidopyrine

Amidopyrine is titrated alone or in presence of antipyrin, acetanilide, phenacetin, caffeine, etc. Any substance, such as quinine, salicylic acid, sucrose, or starch, which interferes with analysis, is first removed, and 10 cc. of an aqueous solution of remaining mixture, containing 30 to 50 mgm. of amidopyrine per 100 cc., are added to 350 cc. of water with approximately as much tenth-normal solution of sodium hydroxide as excess volume of tenth-normal solution of potassium permanganate next added for oxidation of amidopyrine to dihydroxyamidopyrine. Aqueous potassium permanganate must be run in rapidly, solution shaken, and one gram of potassium iodide added quickly. After addition of ten cc. of 50% sulfuric acid, solution is titrated with tenth-normal sodium thiosulfate to faint greenish-yellow color before adding starch solution and completing titration. By dissolving 3 to 5 grams of amidopyrine in 100 cc. and using tenth-normal solutions this may be employed as micro-method. E. Schulek and P. Menyharth. Zeitschrift fuer anal. Chemie, 1932, volume 89, pages 426 to 439.

Morphine in Codeine

Method for determination of morphine in codeine and like preparations is carried out as follows: One mgm. of potassium ferricyanide and 10 mgm. of ferric chloride are dissolved in 10 cc. of water. Solution of alkaloid in one cc. of water and one drop of 4-normal hydrochloric acid are added, and color is observed after 5 minutes. H. J. van Giffen. Pharm. Weekblad, 1932, volume 69, pages 990 to 993.

Oil of Wintera Colorata

Essential oil obtained by steam distillation of leaves, contains betapinene, alphalinonene, dipentene, dicyclic sesquiterpenes giving cadalene and azulene with sulfur, geraniol, and citronellol, sesquiterpene alcohol (m. p. 67° C.) and similar non-crystalline alcohols giving cadalene and azulene on dehydrogenation. Alcohols are present mainly as acetates. Hot principle extracted from leaves with light petroleum can be concentrated in fraction (B. P. 180° C.) at 12 mm. pressure. J. Mellville and A. A. Levi. Journal of the Society of Chemical Industry, 1932, volume 51, pages 210T.

Lecithin

Study was made of lecithin preparations of animal and vegetable origin with special purpose of distinguishing between them. Methods used in examining alcoholic extracts of cocoa bean were applied to commercial lecithin preparations. Cholin content of preparations was determined. In products obtained from soya bean, much higher lecithin content is obtained by calculating on basis of phosphorus content then on cholin content. When there are subtracted from total nitrogen and total phosphorus contents those values found for lecithin by calculation from cholin content, and when residual nitrogen-residual phosphorus ratio is determined, better idea is obtained of difference between two lecithins. Vegetable lecithin contains inappreciable amounts of fatty oil. Vegetable lecithins are phosphatide substances, which differ markedly from egg lecithin in constitution. F. E. Nottbohm and F. Mayer. Chemiker Zeitung, 1932, volume 56, pages 881 to 882.

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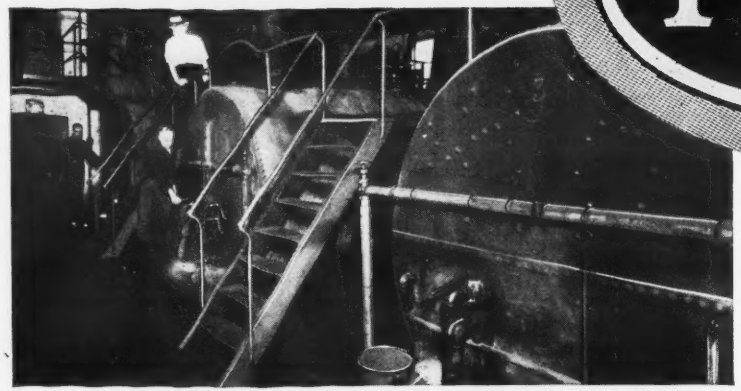

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Hyoscyamine Hydrobromide

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Acetanilid, USP, 200 lb bbls..lb	.26	.27
Acetone, pure 350 lb drs wks..	.12	.14
Acetphenetidin, 225 lb bbls..lb.	1.25	1.30
ACID, Acetylsalicylic, 225 lb bbls.	.70	.75
Agaric, 1 oz vials....oz	...	3.50
Arsenous, USP, 220 lb bbls lb.	...	.18
Benzoic, USP, 100 lb bbls.lb.	.50	.55
Boric, 300 lb bbls.....lb.	.07	.08
Cacodylic, 5 lb. bot.....lb.	...	8.00
Camphoric, USP, VIII 1 lb bot.....lb.	4.82	4.82
Carbolic, USP, crys 112 lb tins.....lb.	.17	.18
Cinnamic, 5 lb cans...lb.	3.25	3.50
Citric, USP, crys 230 lb bbl lb	...	.29
USP, crys imp. 112 lb keg .....lb.	.34	.36
USP, powd 200 lb bbl...lb.	...	.31½
Gallic, USP, 150 lb bbls..lb.	...	.74
Glycerophosphoric, 25% 1 lb bot.....lb.	1.40	1.75
Hydriodic, USP, 10% 5 lb bot.....lb.	...	.59
Hydrobromic, USP, 40% 155 lb. cbys.....lb.	...	.55
Hypophosphorous, USP, 30% .....lb.		
5 gal demis.....lb.	...	.85
Lactic, USP, VIII 100 lb cbys lb.....	.45	.47
USP, X 100 lb cbys.....lb.	.47	.49
Phenylcinchonic.....lb.	...	3.25
Phosphoric, USP, Syr 70 lb drs.....lb.	.14	.15
Pyrogallic, crys 5 lb cans..lb.	1.30	1.40
Resublimed, 5 lb cans...lb.	1.60	1.70
Salicylic, USP, 100 lb bbls.lb.	.40	.45
Stearic, double pressed, bags .....lb.	.08	.08½
Triple pressed, bags,....lb.	.10¾	.11½
Succinic, 100 lb bbls.....lb.	...	1.35
Sulfurous, USP, 6% 100 lb cbys.....lb.	.05	.06
Tannic, USP, fluffy 50 lb bbls. .....lb.	.90	.93
Powd 200 lb bbls.....lb.	.80	.85
Tartaric, USP, 300 lb bbls.lb	.20	.20½
Aconitine, Alk, crys 1 oz vials .....oz.	...	30.00
Amorphous, 1 oz vials....oz.	...	20.00
Adeps Lanae, hyd 350 lb bbls lb.	.13	.15
Anhydrous, 350 lb bbls....lb.	.14	.16
Odorless, bbls.....lb.	.32	.34
Agaricin, 1 oz vis incl.....oz.	...	2.32
ALCOHOL, Benzyl, 5 lb bot lb. F. O. B. Works.....	1.20	1.35
Ethyl, USP, 190 pf 50 gal bbls.....gal.	...	2.535
Grain U. S. P. bbls....gal.	...	2.585
Pure tax free drums...gal.		
Ethyl.....	...	.445
Grain.....	...	.495
Denatured, (drums included) add 5c for bbls.		
No. 1 spec.....gal.	.335	.415
No. 5 comp.....gal.	.385	.465
23 a, spec.....gal.	.37	.49
39 b, spec.....gal.	.395	.515
40 m. spec.....gal.	.34	.46
Isopropyl refd 98-99% drs. incl.....gal.	.55	.60
Phenylethyl, 1 lb bot.....lb.	4.30	4.50
Aloin, USP, 100 lb cases....lb.	.85	.90
Aluminum Acetotartrate kegs .....lb.	...	1.60
Amidipyrine, 10 lb boxes....lb.	4.00	4.10
AMMONIUM, Acetate 100 lb kegs.....lb.	.38	.40
Benzoate, USP, 1 lb bot...lb.	...	1.27
Borate, 10 lb bot.....lb.	...	.35
Bromide, USP, 450 lb bbls.lb.	.35	.36
Carb, USP, lump 150 lb kegs .....lb.	...	.11
USP, powd 150 lb kegs..lb.	...	.12
Citrate, 100 lb kegs.....lb.	.90	1.30
Ichthyolate, as to brand..lb.	4.00	4.50
Iodide, USP, 25 lb jars...lb.	...	3.72
Phosphate, dibasic 250 lb bbls .....lb.	.48	.50
Salicylate, USP, 100 lb kegs .....lb.	1.15	1.20
Valerate, USP, 25 lb jars...lb.	2.75	2.90
Amylene Hydrate, 1 lb bot..lb.	....	7.10
Antipyrine, USP, 100 lb cans.lb.	2.00	2.50
Apomorphine Hydrochloride, ½ oz. vials.....oz.	22.60	22.70
Arecoline Hydrobrom, 1 oz vials .....oz.	5.25	5.35
Aspidospermine Amorphous.oz.	...	15.00
Atropine Alk, USP, 1 oz. vials .....oz.	6.50	7.00
Methyl bromide, 1 oz vials.oz.	...	25.00
Sulfate, 5 oz cans.....oz.	...	2.50
Single ounce.....oz.	...	3.00
Barbital, 1 lb. bot.....lb.	3.50	3.85
Barium Iodide, 5 lb box.....lb.	...	4.35
Sulfate, X-ray diagn bbls..lb.	.09½	.10
BAY RUM Porto Rico, 45 gal. bbls.....gal.	.75	.80
Domestic syn. 50 gal bbl..gal.	.70	.75
St. Thomas, 50 gal bbls...gal.	.80	.90
Benzonaphthol, 5 lb boxes...lb.	2.50	2.60
Benzoyl Cholride, 500 lb dr..lb.	1.00	1.05
Benzyl Benzoate, Medicinal FFC.....lb.	1.20	1.40
Chloride Redis, 160 lb cby.lb.	.30	.35
Formate, 1 lb bot.....lb.	3.25	3.50
Succinate, 160 lb cby.....lb.	...	5.25
BISMUTH, metal 100 lb cases .....lb.	...	.90
Ammon. Citrate, USP, 5 lb cans.....lb.	...	3.10
Betanaphtholate, 5 lb box.lb.	...	2.90
Citrate, USP, 5 lb cans....lb.	...	2.45
Chloride..... .....lb.	...	2.35
Hydroxide.....lb.	...	2.65
Nitrate, 25 lb jars.....lb	...	.95
Oxide anhydrous.....lb.	...	3.05
Oxychloride, 25 lb boxes...lb.	...	2.60
Salicylate, 25 lb boxes.....lb.	...	1.55
Subcarbonate, USP, 25 lb boxes.....lb.	1.25	1.30
Subcarbonate, X-ray diag 1 lb. bot.....lb.	2.20	2.27
Subgallate, USP, 25 lb boxes .....lb.	1.35	1.40
Subiodide, 5 lb lots.....lb.	...	3.40
Subnitrate, USP, 25 lb jar.lb.	1.10	1.15
Subsalicylate, USP, 25 lb boxes.....lb.	2.15	2.20
Tannate.....lb.	...	2.15
Borax, crys USP, 400 lb bbls.lb.	...	.06
Bromoform, USP, 5 lb bot cases .....lb.	1.65	1.90
Butylchloral Hydrate bot....lb.	4.00	5.00
Cadmium iodide, 10 lb bot...lb.	...	3.65
CAFFEINE Alk, USP, 1..... 100 lb kegs.....lb.	1.95	2.00
Citrated, 50 lb cans.....lb.	1.55	1.60
Hydrobromide, 1 lb bot...lb.	4.80	5.00
Hydrochloride, 1 lb bot...lb.	6.05	6.55
Sulfate, 1 lb bot.....lb.	5.40	5.90
Sodium Benzoate, tins....lb.	...	3.05
Salicylate, tins.....lb.	...	2.95
Calcium Bromide, 100 lb cs..lb.	...	.60
Carb, USP, 175 lb bbls....lb.	.05	.06
Gluconate, Gran. 125 lb..... bbls.....lb.	.47	.52
Powd.....lb.	.47	.52
Glycerophos, 250 lb bbls...lb.	...	1.05
Hypophos, USP, 25 lb cans lb.	.55	.60
Iodide, 5 lb bot.....lb.	...	3.75
Lactate, USP, 500 lb bbls lb.	.35	.40
Lactophosphate Soluble...lb.	...	1.20
Powdered tins.....lb.	...	1.00
Insol, powd tins.....lb.	...	.50
Phosphate & Sulfate Tooth Paste grade, Works..lbs.	.03	.06
Sulfide, USP, 100 lb drs...lb.	.21¼	.24
CAMPHOR, Jap. ref. slabs 100 lb. cases.....lb.	.38	.39
Refined powd.....lb.	.39	.40
¼ oz tab, 100 lb cases....lb.	.46	.47
Liniment, bbls.....gal.	2.10	2.20
Monobrom, 100 lb cases...lb.	1.60	1.65
Casein edible, 100 lb kegs...lb.	.45	.55
Charcoal Animal medicinal jars incl.....lb.	...	.50
Charcoal Wood, powd, 100 lb. bbls.....lb.	.06	.07
Chloral Hydrate, USP, 25 lb jars.....lb.	.75	.77
100 lb drums.....lb.	.70	.75
Cholesterin.....lb.	11.00	17.00
Chloroform, USP, 50 lb drs...lb.	.25	.27
Chlorophyll, 1 lb. bot.....lb.	3.75	4.00
Chromium Sulfate Scales, tins .....lb.	.45	.50
Powdered tins.....lb.	.50	.55
Chrysarobin, 50 lb tins.....lb.	2.50	2.55
Cinchonine Alk, 100 oz tins.oz.	...	.34
Crystal.....oz.	.43	.46
Sulfate, 100 oz tins.....oz.	...	.23
Cinchonidin Sulfate, 100 oz tins .....oz.	.32	.35
Cincophen, U.S.P. kegs....lb.	...	2.75
Cocaine Alk, USP, 1 oz vial..oz.	...	11.07
Hydrochloride, USP.....oz.	...	8.50
CODEINE Alk, 1 oz vials, 10 lots.....oz.	...	10.52
Hydrobromide.....oz.	...	8.92
Hydrochloride.....oz.	...	9.52
Nitrate, oz vl 10 oz lots....oz.	...	9.80
Phosp. oz vl, 10 oz lots....oz.	...	7.92
Salicylate.....oz.	...	8.25
Sulfate, oz vl, 10 oz lots...oz.	...	8.42
Colchicino Alk, USP, 1 oz vl.oz.	...	20.00
Salicylate, 1 oz vls.....oz.	...	35.50
Cream Tartar, USP, 300 lb bbls .....lb.	.15½	.16½
Imp. powd. 224 lb bbls....lb.	.17½	.17½
Creosote, USP, 42 lb cbys....lb.	.45	.47
Carbonate, 150 lb.....lb.	1.50	1.60
Cresol, USP, 400 lb drums...lb.	...	.18
500 lb drums.....lb.	.12	.15
DIGITALIN Pure, 1 oz vial.oz	15.00	15.50
Dover's Powder, USP, 5 lb tin .....lb.	2.75	2.80
Duboisine Sulfate, 1 oz vl....oz.	35.00	40.00
Emetine Alk, 15 gr vial.....oz.	...	.85
Hydrochloride, USP, 1 oz vl .....oz.	25.00	26.00
15 grain vials.....oz.	2.50	2.70
Ephedrine, alk. 25 oz. tins,..oz.	1.50	1.90
Hydrochloride, 25 oz. tins, oz.	1.30	1.65
Sulfate, 25 oz. tins.....oz.	1.30	1.65
Epsom Salts, USP, 200 lb bbls .....100 lb.	2.25	2.50
Imp. 100 lb bbls.....100 lb.	2.30	2.35
Ergotin Bonjean, 1 lb jars...lb.	18.50	19.00
Eserine Alk, 1 oz vials.....oz	...	50.00
Salicylate, 1 oz vials.....oz.	...	40.00
Sulfate, USP, VIII 1 oz vials .....oz.	...	40.00
ETHER, USP, 55 lb drums..lb.	...	.11
Anaesthesia, 55 lb drums..lb.	.21	.23
Nitrous, 1 lb bot.....lb.	...	.80
Ethyl Chloride, 200 lb bot...lb.	.22	.24
Ethyl Iodide, 5 lb bot.....lb.	...	4.95
Formaldehyde, USP, 100 lb cbys lc-l wks.....lb.	.07	.07½
Gall Extract.....lb.	.20	.21
GLANDULAR SUBSTANCES		
Duodenal Substance, 1 lb lots	...	3.75
Liver Substance (Hepatic) 1 lb lots.....	...	4.00
Orchic Substance (Testicular)	...	3.75
Ovarian Substance, whole, 1 lb lots.....	...	12.50
Ovarian Residue, 1 lb lots....	...	10.00
Pituitary Substance, whole 1 lb lots.....	...	36.50
Pituitary Substance, Anterior Lobe, 1 lb lots.....	...	31.00
Thyroid, U. S. P., 1 lb lots...	...	3.75
Oxgall Powder, 1 lb lots....	...	1.25
GLYCERIN, CP, 550 lb drums .....lb.	...	.10½
Gold Chloride, bottles.....oz.	12.00	12.50
Guaiacol, liq. USP. 100 lb cbys.....lb	1.60	1.70
Crystals.....lb	2.25	2.50
Benzoate, 1 lb bottles.....lb.	...	3.00
Carbonate, 5 lb boxes.....lb.	1.75	1.80
Halazone, 5 lb bot.....lb.	2.75	3.25
Hexamethylenetetramine, USP, 100 lb dr.....lb.	.46	.47
Homatropine Hydrobrom USP .....oz.	...	14.50
5 oz and 1 oz vials.....oz.	...	13.50
Hydrastine Alk, USP, 1 oz vial .....oz.	20.50	21.00
Hydrochlide, USP, 1 oz vials .....oz.	20.50	21.00
Sulfate, 1 oz vial.....oz.	22.50	23.00
Hydrastinine Hydrochloride, USP, 15 gr vials.....oz.	...	40.00
Hydrogen Peroxide, USP, soln 375 lb bbls.....lb.	.03½	.04½
Hyoscine Hydrobrom, USP, 1 oz vials.....oz.	13.07	35.00
5 oz, 1 oz vials.....oz.		13.57
Hyoscyamine Alk, crystals, 1 oz vials.....oz.	...	25.07
Amorphous, 1 oz vial...oz.	...	75.07
Hydrobromide, USP 1 oz vial		

.....oz.	...	25.00
Sulfate, 1 oz vial.....oz.	...	25.07
Hypoquinone, 100 lb kegs...lb.	...	1.10
ICHTHYOL, tins.....lb.	4.00	4.25
Iodide Arsenous, 5 lb bot...lb.	...	5.20
Arsenous-Mercuric soln, 5 lb bot.....lb	...	.26
Iodine, crude, 200 lb kegs...lb.	...	1.95
Resublimed, 25 lb jars....lb.	...	2.65
Tincture bbls.....gal.	...	2.55
Iodoform, powd 10 lb bot...lb.	...	5.20
Iron & Ammonium Citrate, USP, 50 lb cans.....lb.	.42	.44
Chloride, USP, lump 400 lb bbls.....lb.	.06	.08
Citrate, USP, VIII 25 lb can .....lb.	.94	.99
Hypophosphite, 5 lb cans..lb.	1.40	1.50
Iodide, 1 lb bottles.....lb.	...	3.00
Phosphate, USP, 50 lb cans .....lb.	...	.69
& Potas Oxalate, 250 lb bbl .....lb.	...	.45
Pyrophosphate, USP, 50 lb .....lb.	.74	.80
& Sod Oxalate, 50 lb. cans.lb.	...	.30½
Sulfate, USP, crys bbls....lb.	.04	.04½
Ferrous dried bbls.....lb.	...	.08
Valerate, tins.....lb.	2.75	3.00
Jalap Resin, USP lumps, 5 lb tins.....lb.	...	4.00
Powdered, tins.....lb.	...	4.65
Lead Acetate, USP, 100 lb kegs .....lb.	.16½	.19½
Iodide, USP, VIII 5 lb bot.lb.	...	2.55
Lecithin, 5 oz. jars.....oz.	1.00	1.30
Vegetable, cans.....lb.	1.00	2.50
Licorice Ext Mass, cases....lb.	.19	.20
Compound powder, bbls...lb.	.11	.13
LITHIUM CARBONATE, 250 lb bbls.....lb.	1.25	1.35
Citrate, USP, 100 lb kegs..lb.	...	1.40
Iodide, 5 lb bottles.....lb.	...	4.60
Lobeline Sulfate, ¼ oz vial...oz.	...	8.75
Magnesium Carbonate, USP, 100 lb bbls.....lb.	.08	.09
English, oz blocks.....oz.	.16	.18
Glycerophosphate, 5 lb tins.lb.	3.20	3.25
Hypophosphite, 5 lb cans..lb.	1.10	1.15
Oxide, 100 lb. cases.....lb	.35	.45
Salicylate, 100 lb kegs.....lb	...	1.10
Stearate, bbls.....lb.	.18	.20
Manganese Glycerophosphate, 5 lb tins.....lb.	2.90	3.00
Hypophosphite, USP, VIII 5 lb cans.....lb.	1.35	1.40
Iodide, 1 lb bottles.....lb.	...	5.35
MENTHOL, USP, 60 lb cases .....lb.	3.25	3.40
Synthetic, cases.....lb.	2.50	2.75
Mercury Metal, 75 lb flasks...fl.	49.00	50.00
Bichloride, crys 25 lb box..lb.	...	.82
Gran powd, 100 lb kegs..lb.	...	.67
Bisulfate, 25 lb boxes.....lb.	...	1.48
Blue Mass, 25 lb boxes.....lb.	...	.84
Powd, 25 lb boxes.....lb.	...	.85
Blue Ointment, USP, 50%, 25 lb cans.....lb.	...	.91
Mild 30%, 25 lb cans....lb.	...	.64
33 1/3% mercury.....lb.	...	.67
Calomel, 50 lb boxes.....lb.	...	1.15
English.....lb.	2.65	2.75
Iodide, green, 25 lb jars...lb.	...	3.95
Red, USP, 25 lb jars...lb.	...	3.55
Yellow, USP, VIII, 25 lb jars.....lb.	...	3.65
Red precip.Powd.USP, 25 lb. boxes.....lb.	...	1.24
White precip, Powd., USP, 25 lb. boxes.....lb.	...	1.31
Salicylate, 25 lb bot.....lb.	...	2.32
With chalk, USP, 25 lb boxes .....lb.	...	.69
Methanol, Pure 1c-1 drs....gal	...	.44
Methyl Salicylate, USP, 50 lb cans.....lb.	.40	.42
Methylene Blue, USP, med 5 lb cans.....lb	2.00	2.05
Milk powd, 150 lb bbls.....lb.	.09	.12
MORPHINE Alk, 5 oz tin...oz.	10.90	10.95
Acetate, 5 oz tins.....oz.	8.75	8.80
Hydrobromide, 5 oz tins, 10 oz lots.....oz.	8.75	8.80
Hydrochloride, 5 oz tins, 10 oz lots.....oz.	8.75	8.80
Ethyl Hydrochloride, 5 oz tins 10 oz lots.....oz.	...	10.85
Sulfate, 5 oz tins, 10 oz lots oz.	7.85	8.00
Naphthalene Flake, 175 lb bbls wks.....lb.	.04½	.05
Balls, 250 lb bbls wks.....lb.	.05½	.06
Oxgall, Purified, 5 lb bot....lb.	2.00	2.50
USP, 5 lb bot.....lb.	1.80	1.90
Oxyquinoline Sulfate, tins...lb.	8.50	9.25
Pancreatin, USP, 100 lb....lb.	...	1.90
Paraffin, refd, 200 lb cs slabs 118 -120 deg MP.....lb.	.08	.09
128-132 deg MP.....lb.	.07½	.07½
Para-Aldehyde, USP, 100 lb. carboys.....lb.	.48	.50
Pepsin, USP, 100 lbs. 1:3000.lb.	...	2.25
100 lbs. 1:6000.....lb.	...	4.00
100 lbs. 1:10000 .....lb.	...	6.50
Peptone, powd, 5 lb bot.....lb.	...	1.00
PHENOBARBITAL, U. S. P., 100 lb. lots. .....lb.	...	6.50
Phenolphthalein, U. S. P..... 100 lb drums.....lb.	...	.52
5 lb cans 100 lb lots..lb.	...	.60
Yellow.....lb.	...	.47
Pilocarpine Hydrochloride, USP, 1 oz vials 25 oz lots .....oz.	...	3.25
Nitrate, 25 oz lots.....oz.	...	3.25
Single ounce.....oz.	...	3.50
Alkaloid, 15 gr vials.....vl.	...	.75
Piperadine, 25 oz bottles.....lb.	...	8.00
Popodhyllin 5 lb bottles.....lb.	4.35	4.50
Potassium Acetate, USP, 100 lb kegs.....lb.	.29	.30
Bicarb, USP, crys 320 lb bbls .....lb.	.09½	.10
Bromide, USP, crys 100 lb cs .....lb.	.31	.32
Citrate, USP, 100 lb. box.lb.	.42½	.43
Guaiacol Sulfonate.....ib.	1.95	2.25
Potassium Hypophosphite, 10 lb. cans .....lb.	.65	.70
Iodide, USP, 50 lb cases...lb.	...	2.15
Lactophosphate, 4 ox bot..lb.	...	.90
Permangan, USP, crys, 100 lb drs wks.....lb.	.16	.16½
Phosphate dibasic pure, kegs .....lb.	...	.49
Salicylate, 25 lb cans.....lb.	...	1.18
Sulfate, USP, VIII, 100 lb kegs.....lb.	.13	.15
Sulfocyanide, CP 15 lb jars lb.	...	.50
Tartrate, CP, tins.....lb.	...	.65
Pyrogallol, USP, see Acid Pyro-gallic.....	...	...
Quinidine Alk, 100 oz tins...oz.	.75	.80
Sulfate, 100 oz tins.....oz.	...	.50
QUININE SULFATE, USP, 100 oz tins.....oz.	...	.40
1 oz tins, 100 oz lots....oz.	...	.50
Acetate.....oz.	...	.74
Arsenate.....oz.	...	.76
Benzoate.....oz.	...	.74
Bisulfate, USP.....oz.	...	.40
Citrate.....oz.	...	.50
Dihydrobromide.....oz.	...	.54
Dihydrochloride, USP....oz.	...	.54
Ethyl Carbonate, 16 oz tins .....oz.	...	.54
Ferrocyanide.....oz.	...	.74
Formate.....oz.	...	.72
Glycerophosphate.....oz.	...	.92
Hydrobromide, USP.....oz.	...	.50
Hydrochlorosulfate.....oz.	...	.54
Hypophosphite.....oz.	...	.70
Lactate.....oz.	...	.66
Phenolsulfonate.....oz.	...	.78
Phosphate.....oz.	...	.62
Salicylate, USP.....oz.	...	.52
Tannate, USP.....oz.	...	.40
Tartrate.....oz.	...	.74
Valerate.....oz.	...	.78
Urea Hydrochloride, USP.. .....oz.	...	.54
Rennet, N. F. 5 lb 1:25,000...lb.	2.95	3.50
Resorcinol, USP, 25 lb cans..lb.	1.57	1.65
Rochelle Salt, USP, 225 lb bbl .....lb.	.12½	.13
Rock Sugar, 5 lb boxes.....lb.	...	.15
Saccharin, USP, 10 lb cans...lb.	1.70	1.80
USP, Soluble, 10 lb cans...lb.	1.75	1.85
Salicin, USP.....lb.	...	12.50
SALOL, USP, 100 lb drums..lb.	...	.90
Saltpetre, powd, bbls wks....lb.	.06½	.08¼
Santonin, USP, bulk.....lb.	.65	.70
Saponin, refined.....lb.	1.30	1.50
Seidlitz Mixture, 250 lb bb...lb.	.10¾	.11¼
Silver Metal, American.....oz.	...	.29⅜
Iodide, 16 oz lots.....oz.	...	.69
Nitrate, 100 oz bottles....oz.	.19½	.21½
Nucleinate, bulk.....oz.	...	.37
Proteinate.....oz.	.39	.41
SODIUM BENZOATE, USP, 100 lb bbls.....lb.	.42	.47
Bromide, USP, 100 lb kegs.lb.	.31	.32
Cacodylate, USP, 25 lb bot .....lb.	4.75	5.90
Citrate, USP, X100 lb. box.lb.	.33½	.35½
USP VIII, 100 lb. box..lb.	.26½	.28
Glycerophosphate, N.F., crys 25 lb cans.....lb.	1.27	1.33
Powder, 25 lb tins.....lb.	1.32	1.38
Soln, USP, 25 lb tins...lb.	1.05	1.15
Hypophosphite, USP, 25 lb cans.....lb.	.60	.65
Iodide, USP, 25 lb jars...lb.	...	2.75
Phosphate (Mono-Sodium), 100 lb kegs.....lb.	.28	.29
Di-Sodium USP, granular, 275 lb bbls.....lb.	.07½	.08
Pyrophosphate, 100 lb kegs .....lb.	...	.29
Salicylate, 100 lb kegs....lb.	...	.47
Sulfocarbolate, USP, 100 lb kegs.....lb.	...	.25
Sulfocyanate, CP crys, jars included.....lb.	...	.60
Spartein Sulfate, USP, 25 oz bulk.....oz.	.65	.70
Single oz vial.....oz.	.77	.90
STRONTIUM BROMIDE USP, 50 lb kegs.....lb.	.46	.47
Carb, 100 lb kegs wks....lb.	...	.20
Iodide, USP, 25 lb jars...lb.	...	3.00
Lactate, kegs.....lb.	.90	1.10
Nitrate, 600 lb bbls NY...lb.	.08	.08½
Imp. bbls NY.....lb.	.08	.08½
Salicylate, USP, 100 lb keg lb.	...	1.10
Strophanthin, USP, 1 oz vial.oz.	19.00	19.00
Crystals.....lb.	75.00	75.00
Strychnine Alk, USP crys, 100 oz tins.....oz.	...	.55
Powdered.....oz.	...	.45
Acetate.....oz.	...	.65
Arsenate, 25 oz cans.....oz.	...	.65
Glycerophosphate, USP....oz.	...	.65
Hydrobromide..... .....oz.	...	.65
Hydrochloride.....oz.	...	.65
Hypophosphite.....oz.	...	.75
Nitrate, USP.....oz.	.55	.72
Phosphate.....oz.	...	.65
Sulfate, USP, powd .....oz.	...	.37
Sugar, refined, 275 lb bbl 100 lb	5.80	5.90
Milk, USP, 200 lb bbls...lb.	.18	.20
Sulfonethylmethane, USP, 10 lb boxes.....lb.	3.85	4.05
Sulonmethane, USP, 10 lb box .....lb.	2.65	3.85
Sulfur flwrs. washed, USP, 125 lb bbl.....lb.	...	.06
Iodide, USP, VIII, 5 lb bot lb.	...	3.85
TARTAR EMETIC, USP, 300 lb bbls.....lb.	.26	.28
Terebene, tins.....lb.	...	.85
Terpin Hydrate, USP, 100 lb kegs.....lb.	.30	.32
Theobromine Alk, 5 lb cans..lb.	1.85	2.15
Sod. Salicylate, 1 lb bot...lb.	...	2.10
Sod. Benzoate, 1 oz vials..oz.	...	1.00
Thymol, USP, 25 lb tins.....lb.	1.25	1.35
Iodide kegs.....lb.	...	4.30
Veratrine Alkaloid.....oz.	...	2.25
Sulfate, 1 oz vials.....oz.	...	2.25
Witch Hazel Ext., 50 gal bbl .....gal.	.60	.80
Zinc Carb, USP, 100 lb keg..lb.	.28	.31
Chloride, USP, 25 jars ex..lb.	.24	.29
Iodide, 5 lb bottles.....lb.	...	4.25
Oxide, USP, 100 lb bbls...lb.	.13	.14
Stearate, USP, 50 lb bbl..lb.	.15	.17
Sulfate, USP, 100 lb bbl..lb.	.08	.09
Sulfocarbolate, 100 lb kegs..lb.	.23	.26

Miscellaneous

Absorption Bases.....lb.	.60	.75
Castor Oil, odorless, bbls.....lb.	...	.12
Chalk drop, 175 lb. bbls....lb.	...	.03½
Precip. light, 250 lb. cask..lb.	...	.04½
Heavy 540 lb. casks.....lb.	...	.02½
Bulk.....ton	...	5.00
English light, bags.....lb.	...	.04½
English light, casks.....lb.	.05½	...
Cocoa Butter, fingers..... 12 lb. box.....lb.	.24	.26
Cod Liver Oil Nor. 30 gal. bbls	18.75	21.00
Newfoundland.....bbl.	...	25.00
Collodion U. S. P. 30 lb. dr...lb.	...	.23
Colors certified; 1 lb. cans, 5 lb. cans		
Amaranth No. 107.....lb.	2.55	2.65
Brilliant Blue F.C.F.....lb.	13.25	13.50
Erythrosine No. 517.....lb.	17.00	17.50
Orange Ind. 85.....lb.	2.55	2.65
Ponceau 3R No. 56.....lb.	5.25	5.50
Tartrazine No. 94.....lb.	2.55	2.65
Corn Syrup 42° 50 gal. bbl. .....100 lb.	3.91	4.16
Gelatin, USP, Silver 100 lb. cases.....lb.	.55	.60
Pure Food, 50 lb. bbl.....lb.	.53	.55
Glucose, (grape sugar) dry 70° bags c-l NY.....100 lb.	3.14	3.24
Haarlem Oil, bot 6 gross cases .....gross	...	3.75
Imported, 5 gr. cs.....gross	...	3.50
Kaolin, Bags.....lb.	.06	.08
Colloidal Grade 200 lb. tin lined wooden drums....lb.	.15	.29
Mineral Oil White, 50 gal. bbls.		
80-85 vis.....gal.	.45	.50
85-90 vis.....gal.	.65	.70
125-130 vis.....gal.	.75	.85
290 vis.....gal.	.80	.90
Russian 80-85 vis.....gal.	.55	.60
110-115 vis.....gal.	.70	.75
145-155 vis.....gal.	.73	.78
180-185 vis.....gal.	.78	.83
320-330 vis.....gal.	.83	.88
Olive Oil, Edible bbls.....gal.	1.45	1.55
Paraffin Wax, fully refined, slabs		
125 @ 127 A.M.P. bags lb.	...	.03½
130 @ 132 A.M.P. bags lb.	...	.03½
135 @ 137 A.M.P bags lb.	...	.04½
Petrolatum, Lily White, USP, 400 lb. bbl .....lb.	.07½	.08½
Snow White USP, 400 lb. bbls.....lb.	.09	.10
Rice Starch, 140 lb bags....lb.	.09	.10
Soap Castile, bars 40 lb. Case .....Cs.	...	12.75
Powd. USP 250 lb. bbls...lb.	.26	.28
Green, USP, 450 lb. bbls...lb.	.07½	.07½
Neutral, powd. 200 lb. bbls.lb.	.18	.20
Talc, Italian, 220 lb bags...ton.	60.00	80.00
French, 220 lb bags.....ton.	40.00	45.00

Waxes, See Drugs & Spices

Aromatics and Essential Oils

Acetophenene, CP, 1 lb bot..lb.	3.50	3.65
Aldehyde, C 8 (Otcyl) 1 lb bot ..lb.	...	38.00
C 7, 1 lb bot..lb.	4.50	5.50
C 9 (Nonyl), 1 lb bot ....lb.	...	56.00
C 10 (Decyl), 1 lb bot....lb.	...	36.00
C 14, 1 lb bot..lb.	...	18.00
C 16, 1 lb bot..lb.	...	16.00
AMYL ACETATE, pure, 25 lb cans..lb.	.43	.50
Butyrate, 1 lb bot..lb.	1.25	1.50
Butyrate, 5 lb bot..lb.	...	1.00
Cinnamate, 5 lb bot..lb.	9.50	9.75
Formate, 1 lb bot..lb.	...	1.75
Formate, 5 lb bot..lb.	...	1.60
Phenyl Acetate, 1 lb bot..lb.	4.50	5.00
Salicylate, 100 lb cbys....lb.	.70	.75
Imported..lb.	.25	2.50
Anethol, 2 lb bot..lb.	.95	1.10
Anisic Aldehyde, 1 lb bot....lb.	3.10	3.60
Benzaldehyde, USP, 40 lb cbys ..lb.	...	...
50 lb cbys..lb.	1.35	1.45
FFC, 40 lb cbys..lb.	1.25	1.35
Benzoic Ether, see Ethyl Benzoate		
Benzophenone, 1 lb bot..lb.	1.75	2.25
Benzyl Acetate, 100 lb cbys..lb.	.60	.80
Alcohol, 5 lb bot..lb.	.85	.95
BENZYL BENZOATE.....	1.10	1.15
Medicinal, FFC..lb.	...	1.40
Buytrate, CP, 1 lb bot....lb.	9.25	9.50
Benzyl Cinnamate, 1 lb bot. lb.	7.00	7.25
Formate, 1 lb bot..lb.	3.15	3.25
Propionate, 1 lb bot..lb.	2.25	2.40
Succinate, 1 lb bot..lb.	5.25	5.50
Valerate, 5 lb bot..lb.	3.00	3.25
Borneol, 1 lb bot..lb.	1.35	1.85
Bornyl Acetate, 1 lb bot....lb.	1.50	2.60
Bromstyrol, 25 lb cases....lb.	3.75	3.85
Butyl Anthranilate dom, 1 lb bot..lb.		
Carvol, 5 lb bot..lb.	3.00	3.40
Cinnamic Acid, 5 lb cans....lb.	3.25	3.50
Alcohol liquid, 1 lb bot...lb.	2.50	2.60
Crystallizable..lb.	7.00	8.00
Aldehyde..lb.	2.25	2.50
Imported, 1 lb bot.....lb.	7.75	9.00
Citral, 25 lb cans..lb.	1.65	3.00
Citronellol 1 lb bot..lb.	2.00	2.25
Citronelyl Acetate, 1 lb bot..lb.	3.50	3.75
Coumarin, 25 lb cans..lb.	3.25	3.50
DECYL ALCOHOL..lb.	22.00	25.00
Diphenyloxide, 25 lb tins....lb.	1.05	1.20
Diphenyl Methane..lb.	1.75	2.00
Duodecyl Alcohol..lb.	20.00	22.00
Ethyl Acetate, pure, 5 lb bot..lb.	.05½	.06½
Benzoate, 5 lb bot..lb.	1.25	1.50
Ethyl Butyrate, 5 lb bot....lb.	1.80	2.00
Caproate, 1 lb bot..lb.	3.25	3.50
Cinnamate, 1 lb bot.....lb.	4.00	4.50
Formate, 5 lb bot..lb.	1.00	1.25
Methyl Paracresol, 1 lb bot ..lb.	3.25	3.50
Phenyl Acetate, 5 lb bot..lb.	3.75	4.00
Valerate, 5 lb bot..lb.	...	3.75
Salicylate, 5 lb bot.....lb.	1.95	2.00
Eucalyptol, USP, 50 lb cans..lb.	.55	.60
Eugenol, USP, 25 lb cans....lb.	2.00	2.50
Geraniol, 50 lb cases..lb.	1.75	2.35
Geranyl Acetate, 1 lb bot....lb.	2.75	2.80
Butyrate, 1 lb bot..lb.	13.00	13.50
Formate, 1 lb bot..lb.	12.00	12.50
Heliotropin, 100-10 lbs..lb.	1.65	1.75
Imported..lb.	1.95	2.05
Hydroxycitronellal, 1 lb.....lb.	3.60	5.60
Indol, CP, 1 oz bot..oz.	2.90	3.00
IONONE, 1 lb bot 100%...lb.	5.00	6.00
Alpha..lb.	4.50	4.70
Beta..lb.	5.70	5.75
Methyl..lb.	5.00	5.25
Iso Borneol..lb.	2.25	2.35
Iso Bornyl Acetate..lb.	3.00	3.20
Iso-Butyl Benzoate, 5 lb bot..lb.	2.75	3.00
Iso-Eugenol, 1 lb bot.....lb.	2.85	2.90
Iso-Safrol, 1 lb bot imp.....lb.	1.75	1.85
Domestic, 5 lb bot.....lb.	3.50	3.75
Linalol from Bois de Rose, 5 lb bot..lb.	1.65	3.50
Linalyl Acetate, 1 lb bot....lb.	2.25	2.35
Benzoate, 1 lb bot.....lb.	13.00	14.00
Formate, 5 lb bot..lb.	10.50	12.00
METHYL ACETOPHENONE ..lb.	2.00	2.15
Anthranilate, 1 lb bot.....lb.	2.10	2.20
Imported..lb.	2.70	2.75
Anthranilic Acid..lb.	8.25	8.50
Benzoate, 5 lb bot imp...lb.	1.25	1.35
Domestic, 5 lb bot.....lb.	1.25	1.35
Cinnamate, 1 lb bot.....lb.	3.35	3.85
Heptenone, 1 lb bot.....lb	3.50	4.00
Paracresol, 1 lb bot.....lb	4.50	8.00
Phenylacetate, 5 lb bot...lb	2.50	2.75
Salicylate, USP, 500 lb dr .lb.	...	.40
50 lb cases..lb.	...	.42
Mirbane rect, 1,000 lb drs...lb.	.12	.13
Musk Ambrette 1 lb cans...lb	6.00	6.25
Ketone 1 lb cans.....lb	7.55	7.80
Xylene 5 lb cans.....lb.	2.25	2.85
Nerolin 1 lb cans.....lb.	1.35	1.40
Octyl Alcohol 1 lb bot.....lb.	16.00	18.00
Oenanthic Ether lb bot.....lb.	1.90	2.00
Oleoresin Aspidum..... USP, bot and tins.....lb.	...	1.25
Capsicum, USP, bot and tins ..lb.	2.10	2.20
Cubeb, USP, bot and tins..lb.	2.50	2.75
Ginger bot and tins.....lb.	2.25	2.75
Malefern see Aspidum.....		
Orris, bot & tins.....lb.	12.00	15.00
Pepper, black, USP, bot & tin ..lb.	...	9.50
Vanilla, bot & tins.....lb.	7.00	7.75
Paracresol Methyl Ether....lb.	4.25	4.50
Paracresyl Acetate.....lb.	5.50	5.75
Para Cymene Redd 110 gal dr ..gal.	2.25	2.50
PHENYLACETALDEHYDE 50% 1 lb bot.....lb.	4.50	4.75
Imported 50%.....lb.	4.50	4.75
100%.....lb.	8.00	8.25
Phenylacetic Acid 1 lb bot..lb.	2.65	2.90
Phenyl Diacetate 1 oz bot...oz.	3.00	3.25
1 lb bot.....lb.	8.00	10.00
Imported.....lb.	7.00	7.75
Phenylethyl Alcohol 1 lb bot.lb.	3.75	4.00
Phenyl Ethyl Acetate.....lb.	8.25	8.75
Butyrate 1 lb bot.....lb.	15.00	16.00
Formate, 1 lb bot.....lb.	19.00	21.00
Propionate, 1 lb bot.....lb.	10.00	12.00
Valerate, 1 lb bot.....lb.	14.00	15.00
Phenylpropylalcohol, 1 lb bot ..lb.	8.50	9.00
Rhodinol, 1 lb bot.....lb.	7.00	8.00
Saffrol, drums.....lb.	.30	.32
60 lb cans.....lb.	.32	.34
Skatol, 1 oz bot.....lb.	4.50	7.00
Terpinyl Acetate, 25 lb cans..lb.	.85	.90
Imported, 25 lb cans.....	.85	.90
TERPINEOL, CP, 1000 lb drs ..lb.	.27	.29
50 lb cans.....lb.	.31	.33
Absolute, 25 lb cans.....lb.	.48	.50
Imported, 25 lb cans..lb.	.58	.60
TOLYL ALDEHYDE, F.F.C. 40 lb. carboys.....lb	1.25	1.50
Valerianic Ether see Ethyl Valerate.....		
Vanillin (Clove Oil), USP.lb. (Guaiacol) USP.....lb.	5.50 5.00	5.75 5.25

Essential Oils

Almond Bitter, USP, 5 lb bot lb.	2.15	2.25
Bitter, ffPA, 5 lb bot.....lb.	2.25	2.35
Sweet, 56 lb cans.....lb.	.35	.39
Almond Meal, 25 lb cans....lb.	.20	.21
Amber crude, 25 lb tins.....lb.	.16	.18
Rectified, 25 lb tins.....lb.	.50	.53
Amber liquid, 400 lb drs.....lb.	2.20	2.30
Ambergris, Black, boxes.....oz.	14.00	15.00
Gray boxes.....oz.	25.00	30.00
Angelica Root, 1 lb bot.....lb.	19.00	29.00
Anise Tech, 400 lb drums...lb.	.30	.32
USP, 60 lb cans.....lb.	.32	.34
Apricot Kernel, 50 lb cans...lb.	.22	.23
Bay, 25 lb tins N. F. V., 50.55% Phenol.....lb.	1.55	1.70
Terpeneless.....lb.	4.25	4.45
BERGAMOT, 25 lb coppers.lb.	1.75	1.95
Terpeneless.....lb.	6.25	9.25
Artificial, 25 lb cans.....lb.	1.25	1.50
Birch, Sweet, Northern, 25 lb tins.....lb.	3.00	3.10
Southern, 25 lb tins.....lb.	...	1.85
Birch Tar, rect., 5 lb bot.....lb.	.50	.55
Crude, 50 lb tins.....lb.	.13	.14
Bois de Rose, tins..... Brazillian.....lb.	.95	1.10
Cayenne, tins.....lb.	1.85	2.00
Cade, 25 lb cans.....lb.	.24	.25
Cajuput, native, 50 lb tins..lb.	.48	.60
Calamus, 5 lb bot.....lb.	2.75	3.00
Camphor Sassa, 1000 lb drs..lb.	.10½	.12½
White, 400 lb drs.....lb.	.12	.13
Cans, 50 lbs.....lb.	.14	.16
CANANGA, Native 25 lb tins ..lb.	1.75	1.90
Rectified, 25 lb tins.....lb.	2.05	2.20
Caraway, USP.....lb.	1.35	1.40
Cardamon, NF, 1 lb bot.....lb.	15.00	16.00
Cascarilla, 1 lb bot.....lb.	56.00	70.00
Cassia, ...	...	...
Redist, USP, 50 lb cans...lb.	.85	.90
Cedar Leaf, 50 lb tins.....lb.	.65	.70
Cedar Wood, light, 1000 lb drs ..lb.	.28	.30
Celery, 1 lb bot.....lb.	8.50	10.00
Chaulmoogra, USP 80 lb cases lb.	...	1.50
Cinnamom Ceylon, 1 lb bot..lb.	9.00	10.00
Leaf, 5 lb bot.....lb.	1.85	1.95
CITRONELLA Ceylon, 1000 lb drs.....lb.	.34	.35
50 lb tins.....lb.	.35	.36
Java, 400 lb drs.....lb.	.48	.51
50 lb tins.....lb.	.50	.55
Civet, Abyssin, horns.....oz.	2.10	3.00
Cloves, USP, 50 lb cans.....lb.	.80	.85
6 lb bot.....lb.	.85	.90
Copaiba.....lb.	.45	.50
Coriander, USP, 10 lb bots..lb.	3.90	4.15
Croton USP, 25 lb tins....lb.	2.40	2.65
Cubebs, USP, 5 lb bot.....lb.	2.55	2.65
Cumin, 1 lb bot.....lb.	7.00	7.50
Dill, 25 lb cans.....lb.	3.00	5.25
Erigeron, 20 lb tins.....lb.	.95	1.05
EUCALYPTUS Austl, USP, 56 lb cans, cases.....lb.	.22	.24
500 lb drs.....lb.	.20	.21
Fennel, USP, 25 lb tins.....lb.	.95	1.10
Geranium African, 25 lb tins..lb.	4.25	5.00
Bourbon, 28 lb tins.....lb.	4.30	4.85
Turkish, 28 lb tins.....lb.	1.70	1.85
Ginger, 1 lb bot.....lb.	3.50	3.75
Gingergrass, 28 lb tins.....lb.	2.50	2.70
Grape Fruit.....lb.	2.75	2.85
Hemlock, 25 lb tins.....lb.	.85	1.00
Juniper Berries, USP, 25 lb tins ..lb.	1.20	2.00
Wood, 50 lb tins.....lb.	.50	.60
Labdanum, 5 lb bot.....lb.	5.50	6.00
LAVENDER, USP, 28 lb tins ..lb	1.45	1.65
Spike Spanish, 50 lb cans..lb.	.48	.65
Lemon Ital, 25 lb cans.....lb.	.82	1.10
California 35 lb cbys....lb.	.75	.80
Lemongrass, native, 50 lb cans ..lb.	.42	.45
Limes, expressed, 25 lb tins..lb.	11.00	12.75
Distilled, 25 lb tins.....lb.	6.75	7.25
Linaloe Mex., 70 lb cases....lb.	...	1.40
Mace, distilled, 50 lb tins...lb.	.85	.90
Mandarin, 25 lb cases.....lb.	4.20	4.70
Musk Pods Cabardine, tins..lb.	...	...
Musk Tonquin, tins, Pods...oz.	18.00	20.00
Tonquin, tins, Grained..oz.	22.00	24.00
MUSTARD, USP, 1 lb bots.lb.	8.50	9.00
Artif, USP, 5 lb bot.....lb.	1.50	1.60
Neroli Bigarade, ¼ & ½ & 1 lb bot ..lb.	75.00	105.00
Petale, 1 lb bot.....lb.	95.00	105.00
Artificial, 1 lb bot.....lb.	5.00	15.00
Nutmeg, USP, 50 lb tins....lb.	.85	.90
ORANGE BITTER, 25 lb tins ..lb	1.10	1.50
Sweet W Ind, 25 lb tins..lb	1.05	1.30
Italian, 25 lb cop.....lb	1.00	1.25
Orange American, Cold pressed 25 lb tins.....lb.	.95	1.15
Distilled, 25 lb tins.....lb.	.70	.80
Spanish, 25 lb tins.....lb.	...	1.30
Oil Orris, concrete.....oz.	4.00	4.25
Origanum, 50 lb cans tech...lb.	.25	.27
Parsley, 1 lb bot.....lb.	6.50	6.75
Patchouli, 5 lb bot.....lb.	3.25	4.00
Pennyroyal, dom, 25 lb tins..lb.	1.70	1.90
Imported, 25 lb tins.....lb.	...	1.35
Pepper Black lb.....	...	6.00
Peppermint, nat. 60 lb cases lb.	1.85	1.95
Redis, USP, 60 lb cs.....lb.	2.05	2.15
Petit Grain S A., 25 lb tins..lb.	.90	.95
French, 1 lb bot.....lb.	4.50	4.75
Italian, 25 lb tins.....lb.	2.20	2.30
Pimento Leaf, 25 lb tins ....lb	1.30	1.45
Berries, 25 lb tins .....lb	3.00	3.10
Pine Needle Siberian, cans..lb.	.80	1.00
Pinus, Sylvestris, 25 lb tins..lb.	1.30	2.00
Pumilio, USP, 25 lb tins...lb.	1.90	1.95
Rose Fr, 8, 16, & 32 oz pkgs..lb.	14.00	17.00
Bulg, 8, 10 & 32 oz pkgs...oz.	6.00	17.00
Rosemary, USP, 27½ lb tins..lb.	.34	.40
1000 lb drums.....lb.	.32	.38
Tech, 25½ lb tins.....lb.	.26	.28
Rue, 1 lb bot.....lb.	2.00	2.25
SANDALWOOD, E Ind ,USP, 100 lb case.....lb.	5.50	6.50
W Indian (Amyris), 25 lb. tins.....lb.	2.85	2.95
Australian, Tins.....	5.65	5.65
Sassafras, USP, 50 lb cans...lb.	.70	.80
Artificial, 1000 lb drs, 60 lb cans.....lb.	.16½	.18½
Safrol, cans.....lb.	.22	.24
Sage, Dalmatian, 25 lb. cans.lb.	2.00	2.10
Savin, 50 lb tins.....lb.	1.95	2.20
Snakeroot, Canada.....lb.	8.25	8.50
SPEARMINT, USP, 50 lb tins ..lb	.90	1.10
Spruce, 50 lb tins.....lb	.70	.75
Tansy, American, 25 lb tins..lb.	1.80	1.90
Tar, 50 gal bbls.....lb.	.25	.30
USP, 50 gal bbls.....lb.	.75	1.50
Thyme, red, NF, 25 lb tins..lb.	.60	.75
White, NF, 25 lb tins.....lb.	.65	.80
Tech, 110 lb drums.....lb.	.50	.55
Turpentine, USP, rect cbys..lb.	.27	.30
Vetivert Bourbon, 10 bot....lb.	4.00	4.25
Indian, 1 lb bot.....lb.	25.00	38.00
Java, 1 lb bot.....lb.	12.00	13.00
Wine, heavy, 1 lb bot.....lb.	1.50	1.60
WINTERGREEN Gaultheria, true, 25 lb tin.....lb.	8.00	10.00
Southern, 25 lb tins.....lb.	3.75	4.00
Synthetic see Methyl salicylate.....		
Wormseed, Balt, 25 lb tins...lb.	1.90	2.20
Wormwood, dom, 25 lb tins..lb.	2.25	2.75
Ylang Ylang Bourbon, 10 lb tins No. 1.....lb.	4.75	5.00
10 lb tins No. 2.....lb.	4.25	4.50
Manila, 1 lb bot.....lb.	22.00	27.00

Drugs and Spices

Aconite Root, USP, bags....lb.	.13	.14
Agar Agar, No. 1, bales....lb.	.52	.54
Agar Agar No. 2, bales.....lb.	.45	.47
Almonds Meal.....lb.	.21	.26
Aletris Root, bags.....lb.	.18	.20
Alkanet Root, bags.....lb	.09	.10
ALOES, Cape, 400 lb cases. lb.	.09	.10
Curacao, 140 lb cases.....lb.	.10	.11
Socotrine, Whole, 300 lb cs lb.	.32	.35
Althea Root, bags.....lb.	.16	.18
Cut cases.....lb.	.15	.22
Angelica Root, bags.....lb.	.12	.13
Angostura Bark, bags.....lb	.18	.19
Anise Star case.....lb	.12	.13
Spanish, bags.....lb	.08½	.09½
ARABIC GUM, White, No. 1, 220 lb bags.....lb.	.14	.15
Seconds, 220 lb bags.....lb.	.13	.14
Sorts, Amber, 220 lb bags..lb.	.06½	.06½
Powd, USP, 300 lb bbls....lb.	.10	.13
Areca Nuts, 100 lb bbls.....lb.	.05	.07
Powd, 100 lb bbls.....lb.	.10	.11
Arnica Flowers, bales.....lb.	.10	.11
Root, bags.....lb.	.40	.41
Arrowroot, St. Vincent, powd bbls.....lb.	.10	.11
Asafoetida, 250 lb cases.....lb.	.17	.18
Powd, 50 lb boxes.....lb.	.28	.29
Balm Gilead Buds, bags....lb.	.22	.23
Balmony Herbs, bales.....lb.	.12	.14
BALSAM COPAIBA Para, 80 lb cases.....lb.	.16	.17
South American, USP, 80 lb cases.....lb.	...	.24
Peru, 120 lb cases.....lb.	.90	.95
Tolu, 90 lb cases.....lb.	.75	.85
Barberry Bark, of root, bags lb.	.16	.17
Bayberry Bark, bales.....lb.	.07	.08
Wax bbls.....lb.	.17	.19
BELLADONNA LEAVES, bale .....lb.	.12	.14
Root, bags.....lb.	.11	.12
Bees Wax, White, cases.....lb.	.30	.34
Yellow refined cases.....lb.	.21	.24
Yellow Crude Bags.....lb.	.16	.17
Benzoin Gum, Siam, boxes...lb.	1.00	1.25
Sumatra, cases.....lb.	.18	.20
Berberis Aquafolium Root, bags .....lb.	.08	.09
Beth Root, bags.....lb.	.08	.09
Black Indian Hemp Root, 100 lb bags.....lb.	.10	.11
Blood Root, bags.....lb.	.10	.11
Blueflag Root, bags.....lb.	.12	.13
Boldo Leaves, bales.....lb.	.15	.17
Boneset Herb, bales.....lb.	.08	.09
Borage Flowers, bales.....lb.	.16	.18
Broomtop Herb Cut, bales..lb.	.07	.08
Bryonia Root, bags.....lb.	.09	.10
BUCHU LEAVES Short, 250 lb. bales.....lb.	.20	.22
Long bales.....lb.	.75	.80
Buckbean Leaves, bales.....lb.	.08½	.09
Buckthorn Bark, bags.....lb.	.04½	.05½
Berries, bags.....lb.	.29	.34
Burdock Root, bags.....lb.	.08	.09
Seed bags.....lb.	.30	...
Burgundy Pitch, 110 stand gross for net.....lb.	.08	.09
Imported.....lb.	.10	.11
Calabar Beans, bags.....lb.	.15	.16
Calamus Root, blchd cases..lb.	.26	.28
Unbleached, bags.....lb.	.07	.08
Calendula Petals, imp bales..lb.	.45	.48
Calisaya Bark, bales.....lb.	.19	.20
Powdered, bbls.....lb.	.24	.25
Canary Seed, South America, bags.....lb.	.05	.05½
Dutch, bags.....lb.	.05	.06
Candelilla Wax, bags.....lb.	.12	.14
Cannella Alba Bark, bales...lb.	.25	.26
Cannabis, U.S.P.....lb	.16	.23
Cantharides, Chinese, cases..lb.	.85	.90
Powdered, boxes.....lb.	1.00	1.10
Russian, cases.....lb.	No stocks	
Powdered, boxes.....lb.	No stocks	
Caraway Seed, African, bags .....lb.	.04½	.05½
Dutch, 11 lb bags.....lb.	.12	.13
Cardamon bleached, cases...lb.	.90	.95
Decorticated, cases.....lb.	.58	.60
Carnauba Wax No. 1, 100 lb. bags.....lb.	.22	.23
Cascara Amarga, 150 lb bbls.lb.	...	.30
So called bales.....lb.	.25	.30
CASCARA SAGRADA,		
1930 bark .....lb.	.10	.11
1931 bark.....lb.	.09	.10
1932 bark.....lb.	.08½	.09¼
Cascarilla Bark, quills, bales.lb.	.65	.70
Siftings, bbls.....lb.	.50	...
Cassia Batavia No. 1 bbls....lb.	07	.07½
Shortstick, bales.....lb.	.06	.06½
Batavia No. 3, bales.....lb.	.05½	.06
China Select Rolls, cases..lb.	.02½	.03½
Broken, bales.....lb.	.05½	.05¾
Saigon, thin.....lb.	.19½	.20
Buds, cases.....lb.	.17	.18
Fistula, baskets.....lb.	.15	.16
Catnip, Herb, bales.....lb.	.15	.16
Celery Seed, bales.....lb.	.42	.43
Ceresin Wax, White, bags...lb.	.10	.15
Yellow 200 lb. bags.....lb.	.09	.12
Imp. white 100 lb. bags.lb.	.21	.38

CHAMOMILE FLOWERS		
Roman, bales.....lb.	.25	.28
Hungarian, cases.....lb.	.13½	.15
Charcoal Willow, powd, bbls.lb.	06	.06½
Wood, powd, bbls.....lb.	.04	.05
Chestnut Bark.....lb.	.07	.08
Leaves bales.....lb.	.05	.06
Chicle Gum, 200 lb. bales...lb.	.32	.35
Chiretta, bales.....lb.	.12	.15
Cinnamon, Ceylon, No. 1, bales .....lb.	.12	.14
No. 2 bales.....lb.	.09½	.10
No. 3 bales.....lb.	.11½	.12
Clover Tops, Red, bags....lb.	.09	.11
Cloves Zanzibar, 135 lb bbl...lb.	.11½	.12
Cochineal, Black.....lb.	.69	...
Silver.....lb.	.75	...
Cohosh Root, Black, bags....lb.	.05	.06
Blue, bags.....lb.	.06	.07
Colchicum Root, bags.....lb.	.11	.13
Seed, bags.....lb.	.60	.65
COLOMBO ROOT, bags...lb.	.05	.06
Colocynth Pulp, bales.....lb.	.12	.13
Coltsfoot Leaves, bags.....lb.	.06	.07
Comfrey Root, bags.....lb.	.10	.11
Condurango Bark, bags.....lb.	.09	.10
Coriander Seed, Morocco, bags .....lb.	.06	.07
Bleached, bags.....lb.	.08	.09
Corn Silk, bales.....lb.	.05½	.06½
Cotton Root Bark, bales....lb.	.06	.07
Cowhage, 1 oz tins.....lb.	1.00	...
Cramp Bark so called bales..lb.	.06	.07
True, bags.....lb.	.26	.28
Cranesbill Root, bags.....lb.	.08	.09
CUBEB BERRIES, XX bags .....lb.	.30	.31
Powdered, boxes.....lb	.32	.33
Culvers Root, bags.....lb.	.10	.11
Cumin Seed, Malta, bags....lb.	.12½	.12¾
Morocco, bags.....lb.	.05	.06
Cuttlefish, Bone Trieste, Straps .....lb.	.19	.22
French, boxes.....lb.	.18	.21
Powdered, bbls.....lb.	.09	.10
Broken, bales.....lb.	.07	...
Damiana Leaves, bales.....lb.	.15	.16
Dandelion Root, Imp. bags..lb.	.09½	.10
Deer Tongue Leaves, bales...lb.	.08	.10
Digitalis Leaves, bales.....lb.	.13	.14
Dogwood Bark, Jamaica bags .....lb.	.07	.08
American bales.....lb.	.06½	...
Doggrass Root, USP, cut bags .....lb.	.12	.13
Dragons Blood Mass, cases..lb.	.80	.85
Reeds, boxes.....lb.	.90	.95
Echinacea Root, bags.....lb.	.15	.16
Elcampane Root, bags.....lb.	.06	.07
Elder Flowers, bags.....lb.	.16	.19
Elemi Gum, 85 lb cases.....lb.	.09½	.10
Elm Bark, bundles.....lb.	.16	.19
Grinding bags.....lb.	.08	.09
Powdered, bbls.....lb.	.15	.17
Ephedra Vulgaris, bales.....lb.	.05	.06
ERGOT, 150-200 lb bags....lb.	.35	.45
Eucalyptus Leaves, bales....lb.	.05	.06
Euphorbia Pilulifera, Herb, bags.....lb	.05	.08
Euphorbium Gum, cases....lb.	.14	.20
Fennel Seed, French, bags...lb.	.06½	.07
German bags.....lb.	.08	.09
Foenugreek Seed, 200 lb bags .....lb.	.04	.04½
Fish Berries, 100-125 lb bag..lb.	.15	.16
Flax Seed, Whole 182 lb bbls.lb.	.06	.07
Ground, 180 lb bbls.....lb.	.06½	.08½
Fringe Tree Bark or Root bags .....lb.	.10	.12
Fumigating Pastiles, boxes..lb.	.28	.30
Galangal Root, bags.....lb.	.08	.09
Galbanum Gum, cans.....lb.	.85	.90
Gamboge Gum, 100 lb cases..lb.	.40	.50
Powdered, cases.....lb.	.55	.60
Gelsemium Root, bags.....lb.	.07	.08
GENTIAN ROOT, bags....lb.	.08	.09
Ground bbls, boxes.....lb.	.11	.12
Powdered, bbls, boxes....lb.	.11	.12
Ginger, African, bags.....lb.	.05	.06
Jamaica Grinding bags....lb.	.10	.12
Cochin ABC & Lemon, bags .....lb.	.07½	.07½
Ginseng Root, cultivated cs..lb.	8.00	10.00
Wild Southern, cases.....lb.	11.00	13.00
Golden Seal Root, bags.....lb.	.65	.70
Powdered, boxes.....lb.	.90	1.00
Herb, barrels.....lb.	.35	.40
Grains of Paradise, bags....lb.	.10	.12
Grindelia Robusta, Herb, bale .....lb.	.07	.08
Guaiac Gum, 150 lb cases.....lb.	.25	.26
Strained 75 lb cases...lb.	.70	.75
Guarana, tin cases.....lb.	.60	.70
Hellebore Root, Black, bbls. lb.	.05½	.06
White, 250 lb bbls.....lb.	.13	.14
Powdered.....lb.	.15	.16
Helonias Root, bags.....lb.	.26	.28
Hemp Seed, bags.....lb.	.03½	.03¾
Henbane Leaves, USP, bales.lb.	.07½	.08½
HENNA LEAVES, bales....lb.	.07	.08
Powdered.....lb.	.10	.12
Hops, bales.....lb.	.21	.24
Horehound, Herb, bales.....lb.	.07	.08

Hydrangea Root, bales.....lb.	.06	.07
IPECAC ROOT, Carteagna, bags.....lb.	.75	.80
Powdered, 220 lb bbls...lb.	.90	.95
Nicaraugua. 125 lb. bags lb.	.65	.70
Isinglass, American, 130 lb cases .....lb.	.95	1.00
Russian (Beluga), boxes...lb.	4.50	...
Jaborandi Leaves, bales....lb.	.10	.11
Jalap Root, Whole, 150 lb bag.....lb.	.16	.18
USP, Powd, 250 lb bbls....lb.	.21	.24
Japan Wax 224 lb. cases....lb.	.06	.07
JUNIPER BERRIES, 125 lb bags.....lb.	.05	.05½
Kamala, boxes.....lb.	.21	.26
Karaya Gum, No. 1 Powdered, bbls.....lb.	.11	.11½
Kava Kava Root, bags.....lb.	.13	.14
Kino Gum, Black, cases.....lb.	.50	.55
Kola Nuts, 150 lb bags.....lb.	.05½	.06
Lady Slipper Root, bags....lb.	.30	.35
Larkspur Seed, bags.....lb.	.26	.28
Laurel Berries, bags.....lb.	.08	.09
Leaves, Greek, bags.....lb.	.05	.05½
Italian, bales.....lb.	.08	.09
Lavender Flowers, Ordinary.lb.	.15	.20
Selected.....lb.	.24	.28
Lemon Peel, bags.....lb.	.08	.09
LICORICE ROOT, Whole bbls .....lb.	.12	.15
Spanish Natural bales....lb.	.05½	.07
Powdered, bbls.....lb.	.08	.10
Selected Cases.....lb.	.12	.15
Cutting, 125 lb bags....ln.	.06	.06½
Turkish, 150 lb bales.....lb.	.05	...
Linden Flowers with leaves, bales.....lb.	.18	.19
Without leaves, bales...lb.	.21	.22
Liverwort Leaves, bales.....lb.	.13	.14
Lobelia, Herb, bales.....lb.	.13	.14
Seed, bags.....lb.	.21	.26
Lovage Root, Imp., bags....lb.	.15	.17
Lupulin N. F., tins.....lb.	1.15	1.20
Lycopodium, 88 lb. cases....lb.	.21	.23
MACE SIAUW, No. 1, cases .....lb.	.28	.29
Banda No. 1, cases.....lb.	.35	.36
Batavia No. 2, cases.....lb.	.31	.32
Malva Flowers, Blue, bales..lb.	.60	.65
Black, bales.....lb.	.20	.35
Leaves, bales.....lb.	.12	.13
Manaca Root, bales.....lb.	.20	.21
Manna, Large Flake, cases...lb.	.48	.54
Small Flake, cakes.....lb.	.28	.33
Sorts, cases.....lb.	.45	.50
Mandrake Root, bags.....lb.	.08	.09
Marjoram, Herb.....lb.	.13	.15
French, No. 1 bales.....lb.	.16	.17
German, bales.....lb.	.34	.35
Mastic Gum, 120 lb. cases..lb.	.18	.21
Matico Leaves, bales.....lb.	.15	.16
Mezereon Bark, bags.....lb.	.02½	.03
Millet Seed, Yellow, bags...lb.	.04	.04½
Montan Wax, Crude, bags..lb.	.25	.27
Bleached, pure. bags.....lb.	.09	.11
Moss, Iceland, bales.....lb.	.10	.12
Irish, Bleached, bales....lb.	.90	.95
Mullein Flowers, tins.....lb.	.07	.07½
Leaves, bales.....lb.	.06	.07
Musk Root, Russian, bags...lb.	.20	.22
Myrrh Gum, 200 lb, cases...lb.	.22	...
Nutgalls, Chinese, bags.....lb.	...	.20
Aleppy, bags.....lb.	.13	.15
Powdered, bags.....lb.	.11½	.12
Nutmegs, 110's cases.....lb.	.13½	.14
75's & 80's cases.....lb.	.18	.19
Grinding, bags.....lb		
NUX-VOMICA Buttons, bag .....lb.	.05	.06
Powdered, 200 lb bbls..lb.	.08	.09
Oak Bark, bags.....lb.	.06	.06½
Olibanum Gum, 280 lb cases Siftings.....lb.	.06	.07
Tears, No. 1 Extra.....lb.	.21	.23
No. 2.....lb.	...	.15
No. 3.....lb.	.11	.12
Opium Gum, USP, cases....lb.	12.00	13.00
Granular, cans.....lb.	13.00	14.00
Powdered, USP, cans.....lb.	13.00	14.00
Orange Flowers, cases.....lb.	.25	.30
Peel, Bitter, bags.....lb.	.08	.09
Sweet bags,.....lb.	.07	.08
ORRIS ROOT, Flor. bid. bags .....lb.	.07½	.08½
Powdered, 200 lb bbls..lb.	.12	.13
Verona, bags.....lb.	.06	.07
Powdered, 200 lb bbls..lb.	.10½	.11
Fingers, boxes.....lb.	.80	.85
Ozokerite Wax, Brown, Hard lb.	...	...
Bags.....lb.	.24	.25
Green, Hard, bags.....lb.	.25	.27
Yellow, Refined, bags.....lb.	.20	.25
Papain, Crude, 150 lb cases..lb.	1.40	1.45
Pure, Powdered, 10 lb bot..lb.	1.50	1.55
Paprika, bags.....lb.	.17½	.18
Pareira Brava Root, bags....lb.	.13	.14
Passion Flower, bales.....lb	.04½	.05½
Patchouli Leaves, bales.....lb.	.15	.16
Pennyroyal, Herb, 100 lb bags .....lb.	.08	.09
Leaves, 100 lb bags.....lb.	.12	.13

Drugs and Spices

PEPPERMINT LEAVES, Imp bales....lb.	.18	.26
Domestic, bales....lb.	.17	.21
Pichi Leaves, bags....lb	.08	.09
Pimento Select, bags....lb.	.05½	.06
Pink Root, True, bags....lb.	.25	.27
Pleurisy Root, bags....lb.	.13	.14
Poke Berries, bags....lb.	.15	.16
Root, 200 lb bales....lb.	.06	.06½
Pomegrant Bark of Root, bags ....lb.	.28	.30
Bark of Fruit, bags....lb.	.20	.25
Bark of Tree, bags....lb.	.15	.18
POPPY FLOWERS, Red, bags ....lb.	.40	.45
Prickly Ash Bark....lb.	.12	.15
Southern bags....lb.	.11	.11½
Northern, bags....lb.	.11	.12
Berries, bags....lb.	.20	.21
Prince's Pine, bales....lb.	.15	.20
Psyllium Seed, Black, bags..lb.	.10	.12½
Plantago Seed, Blonde, Bags.lb.	.05	.06½
Pulsatilla, Herb, bags....lb.	.10	.11
Pumpkin Seed, bags....lb.	.11	.12
Pyrethrum Flowers....lb.	.16	.17
Pwd., pure, 200 lb.bbls..lb.	.20	.21
Quassia Chips, bags....lb.	.05½	.06
Quebracho, bulk, 125 lb. bbl.lb.	.20	.21
Quince Seed, Spanish bags...lb.	1.20	1.25
Persian, bags....lb	1.25	1.70
Rape Seed, South American, bags....lb.	.05½	.06
Dutch, bags....lb.	.06	.06½
Raspberries, Dried, bbls....lb.	.30	.35
Red Saunders, bags....lb.	.08	.09
Rhatany Root, bags....lb.	.11	.12
Rhubarb Root, HD, cases...lb.	.19	.20
Powdered, bbls....lb.	.23	.24
Rosemary Leaves, bales....lb.	.05	.05½
Flowers, cases, bales....lb.	.28	.32
Rose Petals, pale....lb.	.14	.15
Red....lb.	.45	.50
Rue, Herb, bales....lb.	.18	.20
Sabadilla Seed, bags....lb.	.14	.15
Powdered, bbls....lb.	.16	.17
SAFFRON FLOWERS, American, bales....lb.	.19	.20
Valencia, 1 lb cans....lb.	10.75	11.00
Sage Dalmatian, bales....lb.	.05½	.06
Sandarac Gum, 300 lb bbls..lb.	.23½	.25
Sarsaparilla Root, Honduras, bales....lb.	.55	.60
Mexican, bales....lb.	.13	.14
Sassafras Bark, Ordinary, bales	.08	.10
Select, bales....lb.	.12	.15
Savory Leaves, bale....lb.	.05½	.06½
Saw Palmetto Berries, bags.lb.	.07	.08
Scammony Resin, boxes....lb.	1.30	1.35
Root, bags....lb.	.06	.07
Senega Root, bags....lb.	.37	.42
SENNA ALEX., 150 lb cases lb.	.20	.25
Half leaf 150 lb bales....lb.	.08½	.10½
Sifting, 400 lb bales...lb.	.09	.10
Tinnevelly, Bold, 350 lb bales ....lb.	.09	.11
Medium Leaf....lb.	.07½	.08½
Small Leaf....lb.	.06	.08
Pods, 350 lb....lb.	.08	.09
Powdered, 200 lb....lb.	...	.09
Serpentaria Root, bags....lb.	.32	.33
Simaruba Bark, bales....lb.	.24	.26
Skullcap Leaves, Eastern, bales ....lb.	.28	.33
Western, bales....lb.	.15	.25
Skunk Cabbage, Natural, bales ....lb.	.11	.13
Snake Root, Canada Natural, bags....lb.	.18	.19
Canada, Stripped, bags...lb.	...	.45
Soap Bark....lb.	.08	.09
Cut, 125-175 lb bags...lb.	.06	.07
Crushed, 200 lb bbls....lb.	.15	...
Powdered, bbls....lb.	.10	.11
Spearmint Leaves, American, bales....lb.	.18	.19
Spermaceti, blocks, cakes, cases ....lb.	.21	.23
Bulk....lb.	.20	.22
Spikenard Root, bags....lb.	.07	.08
Squaw Vine, bales....lb.	.11	.12
Squills, White, tested....lb.	.05	.07
Powdered, bulk....lb.	.14	.16
Stavesacre Seed, bags....lb.	.13	.14
Stillingia Root, bags....lb.	.07	.08
Stone Root, bags....lb.	.07	.08
St. Ignatius Beans, bags....lb.	...	.90
St. John's Bread, bags....lb.	...	.06
STRAMONIUM LEAVES, bales....lb.	.10	.11
Seed, bags....lb.	.07½	...
Strophanthus Seed, Kombe, bags....lb.	1.75	1.95
Styrax Liquid, Artificial....lb.	.26	.35
Genuine, USP....lb.	.38	.43
Sunflower Seed, bags Calif...lb.	.04½	.05
South American, bags....lb.	.07	.07½
Tamarinds, bbls....lb.	.05	.06
Kegs....keg	3.75	3.85
Tansy, Herb, bales....lb.	.12	.13
Thus Gum, 450 lb bbls....lb.	.05½	.06½
THYME, Spanish, bales....lb.	.06	.07
French, bales....lb.	.07½	.08½
Tonga Root....lb.	.21	.22
Bark, bundles....lb.	.21	.22
Tonka Beans, Angostura Cases	1.40	1.50
Para cases....lb.	.60	.70
Surinam cases....lb.	.65	.75
Tragacanth Gum, No 1, 100 lb. cases....lb.	.75	.80
No. 2....lb.	.60	.65
No. 3....lb.	.50	.55
Powdered, 50 lb boxes....lb.	.65	.70
Turkish cases....lb.	.45	.65
Turmeric Root Madras, bags.lb.	.06	.06½
Aleppy bags....lb.	.05½	.06
Powdered....lb.	.10	.12
China bags....lb.	.11	.12
Turpentine Venice True, 80 lb cases....lb.	.30	.38
Artificial, 80 lb cases....lb.	.15	.16
Uva Ursi Leaves, bales....lb.	.05	.05½
Valerian Root, Belgium bags ....lb	.11	.12
VANILLA BEANS, Mexican, whole, cases....lb.	3.00	4.00
Cuts, cases....lb.	2.50	2.65
Bourbon, cases....lb.	.75	1.20
Vetivert Root, 100 lb bags..lb.	.20	.25
Violet Flowers, bags....lb.	.85	.90
Wahoo Bark of Root, bags..lb.	.28	.30
Bark of Tree, bags....lb.	.14	.15
White Pine Bark, Roseed, bags ....lb.	.05½	.06
White Poplar Bark, bags....lb.	.06	.07½
Wild Cherry Bark, Natural thin, Green....lb.	.06	.07
Rossed bales....lb.	.09	.10
Thick Rossed, bales....lb.	.04	.05
Wild Indigo Root, bags....lb.	.09	.10
Willow Bark, bags....lb.	.05	.05½
White, bags....lb.	.15	...
Witch Hazel Bark, bags....lb.	.05	.06
Leaves, bales....lb.	.06	.07
Wormseed, American, bags..lb.	.06	.07
Wormwood, Herb, Imp., bales ....lb.	.08	.09
Yellow Dock Root, bags....lb.	.07	.08
Yerba Mate, bags....lb.	.15	.18
Santa, bags....lb.	.07	.08

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PATENTS

(*Continued from page 573*)

Immunizing Preparations

Process for preparation of substances having local, immunizing action, from bacteria, such as staphylococci, streptococci, bacterium coli etc. Bacteria are shaken with inert liquids and during process oxygen is added for hours long. Liquid is separated from bacterial mass and sterilized. Labopharma Dr. Laboschin G. m. b. H., Berlin, Germany. G. P. No. 539,018, filed December 23, 1927.

Vitamins from Cod Liver Oil

Process for separating vitamin A and vitamin D from cod liver oil consists in extracting oil at ordinary temperature with acetic acid, with exclusion of air. Solution is shaken with petroleum ether and latter distilled off. Acetic acid extract (vitamin D) as well as residue from petroleum ether extraction (vitamin A) are mixed with water, neutralized and extracted with ether. Dr. I. Avellar de Loureiro, Lisbon, Portugal. G. P. No. 540,701, filed June 4, 1930.

Treating Cocaine Alkaloids

Cocaine alkaloids are converted into alkylated derivatives of ekgonine or pseudoekgonine. Alkaloids are dissolved in alcohols and treated with small quantity of strong organic or inorganic base in homeogenous mixture. Action is catalytic. This results in alcoholysis of alkaloids and subsequent isomerization of alkyl-ekgonine which is first formed. Societe Anonyme Etablissements Roques, Saint Ouen, France. G. P. No. 541,074, filed July 9, 1930.

Therapeutic Extracts

Therapeutic extracts are prepared from animal products. For example purinrich, animal organs with local immunity against tuberculosis are extracted with solvents, such as sodium chloride solution, within definite temperature limits. Solution, which contains immunizing substances, is obtained. Temperature limits for animal heart is 40° to 43° C. for spleen, 20° to 28° C. and for thymus glands 32° to 40° C. Dr. Hirsch G. Jacubson, Berlin-Wilmersdorf, Germany. G. P. No. 536,834, filed November 6, 1925.

Formic Acid Product

Product is characterized by fact that free formic acid is liberated when moistened and allowed to exert its therapeutic action effectively. Product consists of dry, pulverized sodium boroformate and pulverized salicylic acid or other oxy-carboxylic acids of benzol series. Substances are mixed to give composition which evolves formic acid slowly and constantly on being moistened. Chemische Fabrik Apotheker Weitz G. m. b. H., Berlin-Marienfelde, Germany. G. P. No. 538,856, filed January 12, 1930.

Tuberculosis Serum

Living tissues converted through regressive metamorphosis under action of tuberculosis, are freed from bacteria by filtering. Then either filtrate alone or mixed with finely divided residue is incorporated with serum diluent and serum obtained in usual manner. Reischach & Co., G. m. b. H., Berlin, Germany. G. P. No. 541,238, filed, September 25, 1927.

Stable Silver Drug

Process for manufacture of stable, aqueous solutions of sodium-silver thiosulfate for therapeutic purposes. Formula of drug is $2Na_2S_2O_3.Ag_2S_3O_3.2H_2O$. Sodium-silver thiosulfate is dissolved together with water-soluble, alkali-reacting salts, or such salts are added to its solution. Remedium Chemische Institut G. m. b. H., Berlin-Schoeneberg, Germany. G. P. No. 537,324, filed September 4, 1929.

Digitalis Glucoside

Portion of crude glucoside, which is difficultly soluble in chloroform and dilute alcohol (up to 35%) or methyl alcohol, is crystallized from acetone or alcohol (70%). Glucoside obtained is highly active physiologically. Dr. Carl Mannich, Berlin-Steglitz, Germany. G. P. No. 514,096, filed October 5, 1928.

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